United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Virginia Polytechnic Institute and State University

Soil Survey of Cumberland County, Virginia

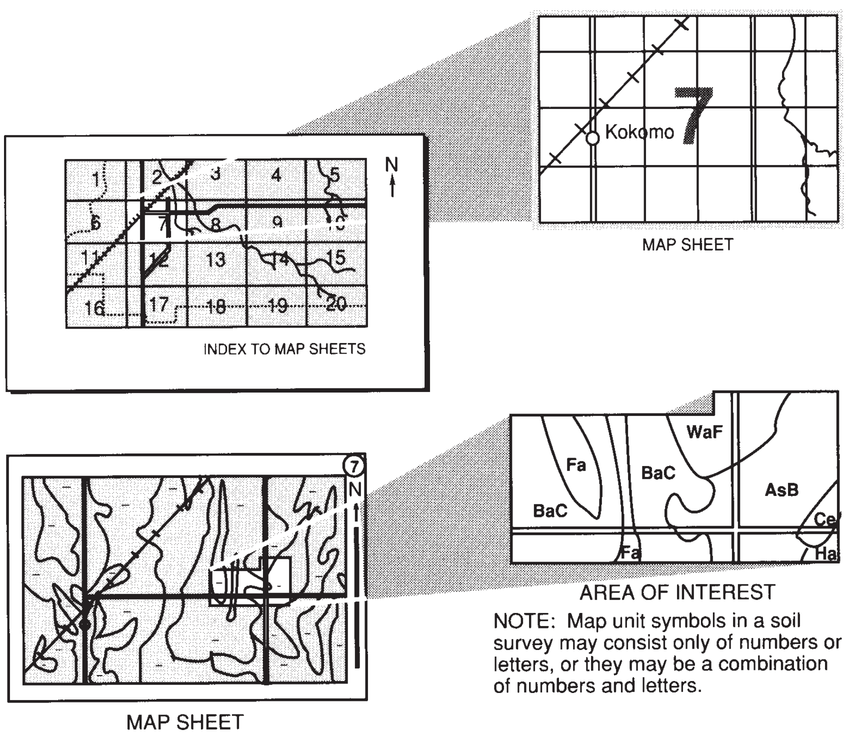
How To Use This Soil Survey

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and go to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Go to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1998. Soil names and descriptions were approved in 2005. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1998. The most current official data are available at http://websoilsurvey.nrcs.usda.gov/app/. This survey was made cooperatively by the Natural Resources Conservation Service and the Virginia Polytechnic Institute and State University.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Cover: Contour stripcropping in an area of Mattaponi-Appling complex, 2 to 7 percent slopes, is in the foreground. The historic High Bridge over the Appomattox River is in the background.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

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Issued 2007

Foreword

This soil survey contains information that affects land use planning in Cumberland County. It includes predictions of soil behavior for selected land uses. The survey highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use the survey to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

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State Conservationist
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Soil Survey of
Cumberland County, Virginia

By Earl Reber, John Nicholson, and Pamela Thomas, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
Virginia Polytechnic Institute and State University

CUMBERLAND COUNTY is in central Virginia about 50 miles west of Richmond, Virginia (fig. 1). It is bordered on the south by Prince Edward County, on the north by Fluvanna and Goochland Counties, on the east by Amelia and Powhatan Counties, and on the west by Buckinham County. Cumberland County has 297.5 square miles of land and 3.1 square miles of water. In 2000, the population of Cumberland County was 9,017 *(19)*.

General Nature of the Survey Area

This section provides general information about the survey area. It discusses history; physiography, relief, and drainage; local economy; minerals; wildlife; and climate.

History

Cumberland County was formed from Goochland County by an act of the Virginia Assembly in 1749 and named for the Duke of Cumberland, second son of King George II. On April 22, 1776, Cumberland led the Colonies in calling for independence from Britain. This is recorded as the first positive call for American Independence issued by a governmental body.

One of the last battles of the Civil War was fought at the historic High Bridge, which spans the Appomattox River from Cumberland County to Prince Edward County. This historic railroad bridge was built in 1854 with brick piers supporting a wooden superstructure, which was partially burned during the Civil War. The piers are now overshadowed by their 1914 steel counterpart that is used today for freight trains. General Robert E. Lee received Grant's first communication concerning the surrender of the Army of Northern Virginia while camping at Cumberland Presbyterian Church. These historic sites are included in the driving tour of the Route of Lee's Retreat, which follows the final campaign of the Civil War from Petersburg to Appomattox.

Physiography, Relief, and Drainage

The survey area is completely within the Piedmont physiographic province, which is located between the Blue Ridge province to the west and the Atlantic Coastal Plain to the east.

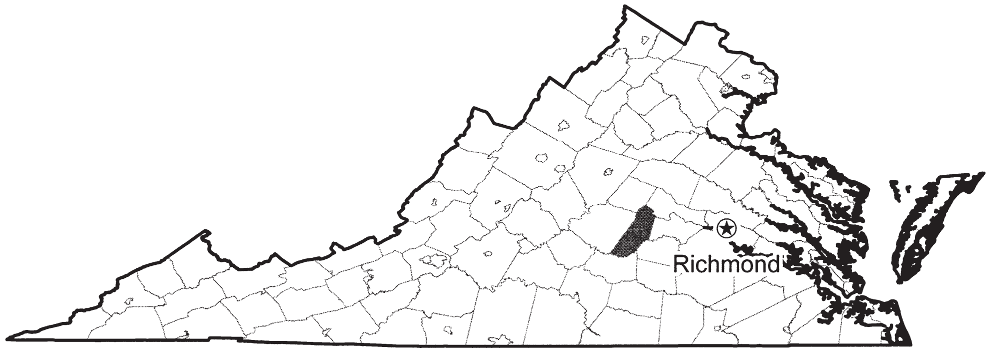

Figure 1.—Location of Cumberland County in Virginia.

The county's land features are those typical of a moderately high plateau dissected by numerous streams and rivers. Upland summits range from narrow to broad and occur at elevations from about 200 feet above sea level to as much as 500 feet. The base elevation of the major drainage systems is about 300 feet. The side slopes between the summits and drains are highly dissected and are moderately sloping to very steep.

Major drainage systems are the James and Appomattox Rivers. Broad flood plains and terraces are associated with the James River, and much of these areas are prime farmland.

Local Economy

Cumberland County has a diverse economic sector. Employment is concentrated in manufacturing, retail trade, services, construction, public administration, agriculture, and forestry.

Agriculture has been a major contributor to the local economy since the county was created. Cumberland County is a thriving tobacco producer in Virginia, and many farmers depend on this crop for a livelihood. Tobacco production is regulated by the quota system of the U.S. Department of Agriculture. Recently, the poundage or acreage that farmers can commit to tobacco production has been drastically reduced and some farmers are looking for other crops to include in their crop rotations. Several farmers are diversifying their farming operations by producing and marketing specialty crops, such as melons, pumpkins, strawberries, and vegetables.

In addition to tobacco, the major row crops are corn, soybeans, and small grains. Numerous farms are involved in cattle, dairy, and poultry production.

About 70 percent of the county, or about 135,600 acres, is in woodland. Private ownership accounts for about 85 percent of the commercial forestland. The other 15 percent is owned by industries or the government. Mixed hardwoods and pine is the dominant forest type while loblolly pine is frequently planted after harvesting areas of hardwood. Much of the harvested timber is used by local plants and sawmills to produce fiber board and dimensional lumber, and some is exported to other processors.

Minerals

Cumberland County is in the Piedmont province and is underlain primarily by igneous and metamorphic rocks. Recent testing indicates that clay materials at selected localities in the county are potentially suitable for the manufacture of brick and other ceramic products. Sulfide minerals and gold were prospected at a site near

Cartersville. The abandoned Piedmont Coal Company produced coal for local use from the early 1860's intermittently until the early 1980's in the southern part of the county.

Wildlife

The woodland, cropland, and wetland wildlife habitats of Cumberland County support a varied population of fish and wildlife. Large wooded tracts are mainly on the upland soils, such as Cecil, Clifford, and Nathalie. These areas and wooded margins of open fields support large numbers of white-tailed deer, wild turkey, red fox, gray fox, squirrel, skunk, and opossum. Cropland throughout the county provides habitat for cottontail, ground hog, quail, mourning dove, and many other species of birds. Areas adjacent to intermittent and perennial streams provide habitat for beaver, raccoon, muskrat, snakes, turtles, and numerous species of waterfowl. Codorus, Riverview, Sindion, and Speedwell soils occur on these riparian landscapes.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Amelia, Virginia, in the period 1970 to 2005. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.

In winter, the average temperature is 38.0 degrees F and the average daily minimum temperature is 26.6 degrees. The lowest temperature on record, which occurred at Amelia on February 10, 1979, is -12 degrees. In summer, the average temperature is 74.6 degrees and the average daily maximum temperature is 86.6 degrees. The highest recorded temperature, which occurred at Amelia on July 6, 1999, is 102 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The average annual total precipitation is 44.96. Of this, 27.05 inches, or about 60 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 0.52 inch, recorded at Amelia on October 6, 1972. Thunderstorms occur on about 32 days each year, and most occur in July.

The average seasonal snowfall is 12.6 inches. The greatest snow depth at any one time during the period of record was 15 inches, recorded on February 12, 1983. On an average, 7 days per year have at least 1 inch of snow on the ground.

The average humidity in mid-afternoon is about 51 percent. Humidity is higher at night, and the average at dawn is about 81 percent. The sun shines 72 percent of the time possible in summer and 56 percent in the winter. The prevailing wind is from the south. Average windspeed is highest, 9.1 miles per hour, in March.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which

is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown

on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Clifford sandy loam, 2 to 7 percent slopes, is a phase of the Clifford series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Fairview-Devotion complex, 15 to 25 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Chewacla and Monacan soils, 0 to 2 percent slopes, frequently flooded, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Water is an example.

Table 4 lists the map units in this survey area. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

1B—Appling sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Appling and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Typical Profile

Surface layer:
0 to 10 inches—brown sandy loam

Subsoil:
10 to 16 inches—yellowish brown clay
16 to 26 inches—yellowish brown clay; common strong brown mottles
26 to 57 inches—yellowish brown clay; common red mottles
57 to 65 inches—brownish yellow clay loam; common red and common yellowish red mottles

Minor Components

Similar components:
- Very deep, moderately well drained Mattaponi soils; on the wider summits
- Very deep, moderately well drained Helena soils; in depressional areas and on very broad summits

Soil Properties and Qualities

Available water capacity: High (about 9.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)

Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite and gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to wheat and grass-legume hay; moderately suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings and to equipment operations.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- This soil is well suited to septic tank absorption fields.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: V
Hydric soil: No

2C—Appling-Helena complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section

Position on the landform: Appling—strongly sloping side slopes and nose slopes; Helena—strongly sloping footslopes, toeslopes, and drainageways
Shape and size of areas: Irregular; 5 to 150 acres

Map Unit Composition

Note: These Appling and Helena soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Appling and similar soils: Typically 55 percent, ranging from about 50 to 60 percent
Helena and similar soils: Typically 25 percent, ranging from about 20 to 35 percent

Typical Profile

Appling

Surface layer:
0 to 10 inches—brown sandy loam

Subsoil:
10 to 16 inches—yellowish brown clay
16 to 26 inches—yellowish brown clay; common strong brown mottles
26 to 57 inches—yellowish brown clay; common red mottles
57 to 65 inches—brownish yellow clay loam; common red and common yellowish red mottles

Helena

Surface layer:
0 to 9 inches—brown sandy loam

Subsoil:
9 to 11 inches—light yellowish brown sandy clay loam; yellowish brown and brownish yellow masses of oxidized iron
11 to 13 inches—yellowish brown clay; light yellowish brown and strong brown masses of oxidized iron
13 to 22 inches—brownish yellow and strong brown clay; yellowish red masses of oxidized iron
22 to 28 inches—brownish yellow clay; yellowish brown masses of oxidized iron and very pale brown iron depletions
28 to 33 inches—brownish yellow and strong brown clay; red masses of oxidized iron and very pale brown and light brownish gray iron depletions
33 to 43 inches—light yellowish brown clay; strong brown and red masses of oxidized iron and very pale brown and light gray iron depletions

Substratum:
43 to 64 inches—light yellowish brown sandy loam

Minor Components

Dissimilar components:
- Very deep, poorly drained Worsham soils; in drainageways
- Moderately deep, well drained Poindexter soils; on side slopes and nose slopes

Similar components:
- Very deep, moderately well drained Mattaponi soils; on landforms similar to those of the Appling and Helena soils

Soil Properties and Qualities

Available water capacity: Appling—high (about 9.2 inches); Helena—moderate (about 8.4 inches)

Slowest saturated hydraulic conductivity: Appling—moderately high (about 0.57 in/hr); Helena—moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Appling—well drained; Helena—moderately well drained
Depth to seasonal water saturation: Appling—more than 6 feet; Helena—about 12 to 24 inches
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Appling—low; Helena—high
Runoff class: Appling—medium; Helena—very high
Surface fragments: None
Parent material: Granite and gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.
- These soils are well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Appling—V; Helena—KK
Hydric soils: No

3B—Banister fine sandy loam, 2 to 7 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Gently sloping stream terrace treads
Shape and size of areas: Longer than wide; 3 to 100 acres

Map Unit Composition

Banister and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

Typical Profile

Surface layer:
0 to 8 inches—olive brown fine sandy loam (light olive brown, dry)

Subsoil:
8 to 14 inches—olive brown loam
14 to 18 inches—yellowish brown clay loam
18 to 38 inches—yellowish brown clay; gray iron depletions and strong brown masses of oxidized iron
38 to 50 inches—yellowish brown clay; gray iron depletions and strong brown masses of oxidized iron
50 to 58 inches—light gray clay; red masses of oxidized iron

Substratum:
58 to 65 inches—light gray clay loam

Minor Components

Dissimilar components:
- Very deep, somewhat poorly drained Codorus soils; in depressions and drainageways

Soil Properties and Qualities

Available water capacity: Moderate (about 7.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)

Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Low
Surface fragments: None
Parent material: Alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and southern red oak; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.
- This soil is well suited to haul roads and log landings.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: K
Hydric soil: No

4B—Bentley-Nathalie complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Bentley and Nathalie soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Bentley and similar soils: Typically 65 percent, ranging from about 60 to 70 percent
Nathalie and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Bentley

Surface layer:
0 to 17 inches—brown loamy sand (light yellowish brown, dry)

Subsoil:
17 to 23 inches—yellowish brown sandy loam
23 to 35 inches—yellowish brown sandy clay loam
35 to 48 inches—yellowish brown clay; pale brown iron depletions and red masses of oxidized iron
48 to 61 inches—red, pale brown, and yellowish brown sandy clay; light gray iron depletions

Substratum:
61 to 80 inches—yellowish brown and dark yellowish brown sandy clay loam; light gray iron depletions

Nathalie

Surface layer:
0 to 9 inches—yellowish brown sandy loam (light yellowish brown, dry)

Subsoil:
9 to 12 inches—strong brown sandy clay loam
12 to 27 inches—strong brown clay; common brownish yellow and common red mottles
27 to 42 inches—brownish yellow clay; many red mottles
42 to 52 inches—yellowish red clay loam; many yellow mottles

Substratum:
52 to 65 inches—brownish yellow and yellowish red loam

Minor Components

Dissimilar components:
- Very deep, moderately well drained Halifax soils; in slightly concave positions, swales, or drainageways

Soil Properties and Qualities

Available water capacity: Bentley—moderate (about 8.3 inches); Nathalie—high (about 9.1 inches)
Slowest saturated hydraulic conductivity: Bentley—moderately high (about 0.21 in/hr); Nathalie—moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: Bentley—about 30 to 39 inches; Nathalie—more than 60 inches
Water table kind: Bentley—perched; Nathalie—not applicable
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Bentley—moderate; Nathalie—low
Runoff class: Medium
Surface fragments: None
Parent material: Bentley—ancient alluvium capping; Nathalie—granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to soybeans, wheat, tobacco, and grass-legume hay; moderately suited to corn and alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- Coarse textured soil layers increase the maintenance of haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: Bentley—R; Nathalie—V
Hydric soils: No

5B—Brickhaven-Creedmoor complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 15 to 500 acres

Map Unit Composition

Note: These Brickhaven and Creedmoor soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Brickhaven and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Creedmoor and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Brickhaven

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsurface layer:
3 to 9 inches—brown fine sandy loam

Subsoil:
9 to 13 inches—yellowish brown clay loam
13 to 25 inches—red, strong brown, and light yellowish brown clay
25 to 34 inches—light yellowish brown clay
34 to 44 inches—yellowish brown clay
44 to 50 inches—dark yellowish brown clay

Substratum:
50 to 56 inches—reddish brown clay loam; common olive yellow, common light gray, and common weak red mottles

Soft bedrock:
56 to 66 inches—very dusky red shale and siltstone bedrock

Creedmoor

Surface layer:
0 to 9 inches—brown fine sandy loam

Subsoil:
9 to 13 inches—light olive brown fine sandy loam
13 to 18 inches—light olive brown sandy clay loam
18 to 28 inches—yellowish brown clay; light brownish gray iron depletions and red masses of oxidized iron
28 to 39 inches—yellowish brown clay; light brownish gray iron depletions
39 to 46 inches—yellowish brown silty clay; light brownish gray iron depletions and yellowish brown masses of oxidized iron

Substratum:
46 to 57 inches—light yellowish brown and brownish yellow loam
57 to 61 inches—yellowish brown and brownish yellow loam; light brownish gray iron depletions and yellowish brown masses of oxidized iron

Minor Components

Dissimilar components:
- Moderately deep, somewhat poorly drained Carbonton soils; on lower landforms

Soil Properties and Qualities

Available water capacity: Brickhaven—high (about 9.2 inches); Creedmoor—moderate (about 8.7 inches)
Slowest saturated hydraulic conductivity: Brickhaven—moderately low (about 0.06 in/hr); Creedmoor—low (about 0.00 in/hr)
Depth class: Brickhaven—deep (40 to 60 inches); Creedmoor—very deep (more than 60 inches)
Depth to root-restrictive feature: Brickhaven—40 to 60 inches to paralithic bedrock; Creedmoor—more than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: Brickhaven—about 42 to 60 inches; Creedmoor—about 12 to 24 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Brickhaven—moderate; Creedmoor—high
Runoff class: High
Surface fragments: None
Parent material: Triassic shale and siltstone residuum

Use and Management Considerations

Cropland

Suitability: Well suited to grass-legume hay; moderately suited to corn, soybeans, and wheat
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 2e
Virginia soil management group: Brickhaven—Y; Creedmoor—KK
Hydric soils: No

5C—Brickhaven-Creedmoor complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Strongly sloping shoulders and side slopes
Shape and size of areas: Irregular; 15 to 500 acres

Map Unit Composition

Note: These Brickhaven and Creedmoor soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Brickhaven and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Creedmoor and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Brickhaven

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsurface layer:
3 to 9 inches—brown fine sandy loam

Subsoil:
9 to 13 inches—yellowish brown clay loam
13 to 25 inches—red, strong brown, and light yellowish brown clay
25 to 34 inches—light yellowish brown clay
34 to 44 inches—yellowish brown clay
44 to 50 inches—dark yellowish brown clay

Substratum:
50 to 56 inches—reddish brown clay loam; common olive yellow, common light gray, and common weak red mottles

Soft bedrock:
56 to 66 inches—very dusky red shale and siltstone bedrock

Creedmoor

Surface layer:
0 to 9 inches—brown fine sandy loam

Subsoil:
9 to 13 inches—light olive brown fine sandy loam
13 to 18 inches—light olive brown sandy clay loam
18 to 28 inches—yellowish brown clay; light brownish gray iron depletions and red masses of oxidized iron
28 to 39 inches—yellowish brown clay; light brownish gray iron depletions
39 to 46 inches—yellowish brown silty clay; light brownish gray iron depletions and yellowish brown masses of oxidized iron

Substratum:
46 to 57 inches—light yellowish brown and brownish yellow loam
57 to 61 inches—yellowish brown and brownish yellow loam; light brownish gray iron depletions and yellowish brown masses of oxidized iron

Minor Components

Dissimilar components:
- Moderately deep, somewhat poorly drained Carbonton soils; on lower landforms

Soil Properties and Qualities

Available water capacity: Brickhaven—high (about 9.2 inches); Creedmoor—moderate (about 8.7 inches)
Slowest saturated hydraulic conductivity: Brickhaven—moderately low (about 0.06 in/hr); Creedmoor—low (about 0.00 in/hr)
Depth class: Brickhaven—deep (40 to 60 inches); Creedmoor—very deep (more than 60 inches)
Depth to root-restrictive feature: Brickhaven—40 to 60 inches to paralithic bedrock; Creedmoor—more than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: Brickhaven—about 42 to 60 inches; Creedmoor—about 12 to 24 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Brickhaven—moderate; Creedmoor—high
Runoff class: Very high

Surface fragments: None
Parent material: Triassic shale and siltstone residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e

Virginia soil management group: Brickhaven—Y; Creedmoor—KK
Hydric soils: No

6B—Cecil sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Cecil and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Typical Profile

Organic layer:
0 to 1 inch—dark reddish brown partially decomposed organic matter

Surface layer:
1 to 3 inches—yellowish brown sandy loam

Subsoil:
3 to 7 inches—strong brown sandy clay loam
7 to 14 inches—red clay; few brownish yellow mottles
14 to 20 inches—red clay
20 to 32 inches—red clay; common brownish yellow mottles
32 to 45 inches—red clay loam; common reddish yellow mottles

Substratum:
45 to 72 inches—red loam; common reddish yellow mottles

Minor Components

Dissimilar components:
- Very deep, moderately well drained Trenholm soils; in depressional areas

Similar components:
- Very deep, moderately well drained Helena soils; in depressional areas

Soil Properties and Qualities

Available water capacity: Moderate (about 8.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite and gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to wheat and grass-legume hay; moderately suited to corn and soybeans

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to northern red oak; moderately suited to loblolly pine, southern red oak, yellow-poplar, and sweetgum

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings and to equipment operations.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- This soil is well suited to septic tank absorption fields.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: X
Hydric soil: No

7C—Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 100 acres

Map Unit Composition

Cecil and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Organic layer:
0 to 1 inch—dark reddish brown partially decomposed organic matter

Surface layer:
1 to 3 inches—yellowish brown sandy loam

Subsoil:
3 to 7 inches—strong brown sandy clay loam
7 to 14 inches—red clay; few brownish yellow mottles
14 to 20 inches—red clay
20 to 32 inches—red clay; common brownish yellow mottles
32 to 45 inches—red clay loam; common reddish yellow mottles

Substratum:
45 to 72 inches—red loam; common reddish yellow mottles

Minor Components

Dissimilar components:
- Moderately deep, well drained Poindexter soils; on landforms similar to those of the Cecil soil

Similar components:
- Very deep, well drained Enon soils; on landforms similar to those of the Cecil soil
- Very deep, moderately well drained Helena soils; on slightly lower landforms

Soil Properties and Qualities

Available water capacity: Moderate (about 8.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite and gneiss residuum

Use and Management Considerations

Cropland

Suitability: Poorly suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to northern red oak; moderately suited to loblolly pine, southern red oak, yellow-poplar, and sweetgum

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: X
Hydric soil: No

8A—Chewacla and Monacan soils, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Nearly level flood plains
Shape and size of areas: Long and narrow; 3 to 100 acres

Map Unit Composition

Chewacla and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Monacan and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Chewacla

Surface layer:
0 to 9 inches—dark yellowish brown loam

Subsoil:
9 to 17 inches—brown loam; black iron-manganese nodules
17 to 24 inches—brown loam; black iron-manganese nodules, strong brown masses of oxidized iron, and grayish brown iron depletions

24 to 30 inches—brown loam; black iron-manganese nodules and light brownish gray iron depletions
30 to 36 inches—brown sandy clay loam; black iron-manganese nodules and grayish brown iron depletions
36 to 40 inches—dark gray sandy clay loam; strong brown masses of oxidized iron
40 to 50 inches—gray sandy clay loam; brown masses of oxidized iron and dark yellowish brown and brownish yellow masses of oxidized iron

Substratum:
50 to 62 inches—gray clay loam; brownish yellow masses of oxidized iron

Monacan

Surface layer:
0 to 12 inches—dark yellowish brown silt loam; black iron-manganese concretions

Subsoil:
12 to 25 inches—dark yellowish brown silt loam; black iron-manganese concretions, grayish brown iron depletions, and light yellowish brown and dark brown masses of oxidized iron
25 to 34 inches—dark yellowish brown silt loam; black iron-manganese nodules, grayish brown iron depletions, and brown masses of oxidized iron
34 to 42 inches—grayish brown silty clay loam; black iron-manganese nodules, gray iron depletions, and dark yellowish brown masses of oxidized iron
42 to 63 inches—gray clay; yellowish brown and dark yellowish brown masses of oxidized iron and strong brown iron-manganese concretions

Minor Components

Dissimilar components:
- Very deep, poorly drained Wehadkee soils; in the slightly lower positions
- Very deep, well drained Riverview soils; in the slightly convex positions

Soil Properties and Qualities

Available water capacity: Chewacla—moderate (about 8.5 inches); Monacan—high (about 9.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Somewhat poorly drained
Depth to seasonal water saturation: Chewacla—about 6 to 18 inches; Monacan—about 6 to 12 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Chewacla—negligible; Monacan—low
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Well suited

- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar and sweetgum

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable Best Management Practices (BMPs).
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6w
Virginia soil management group: I
Hydric soils: No

9B—Clifford sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Clifford and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—brown sandy loam (brown, dry)

Subsoil:
6 to 35 inches—red clay
35 to 55 inches—red clay loam

Substratum:
55 to 65 inches—red loam

Minor Components

Dissimilar components:
- Very deep, moderately well drained Halifax and Jackland soils; in depressional areas

Soil Properties and Qualities

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to wheat and grass-legume hay; moderately suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to northern red oak; moderately suited to loblolly pine, southern red oak, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The low soil strength interferes with the construction of haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: X
Hydric soil: No

10C—Clifford sandy loam, 7 to 15 percent slopes, very stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Clifford and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—brown sandy loam (brown, dry)

Subsoil:
6 to 35 inches—red clay
35 to 55 inches—red clay loam

Substratum:
55 to 65 inches—red loam

Minor Components

Similar components:
- Very deep, well drained Rasalo soils; on landforms similar to those of the Clifford soil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: About 0.10 to 3.00 percent subangular stones
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- Large stones on the surface may restrict the operation of some farm machinery.

Woodland

Suitability: Well suited to northern red oak; moderately suited to loblolly pine, southern red oak, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6s
Virginia soil management group: X
Hydric soil: No

11C—Clifford clay loam, 7 to 15 percent slopes, severely eroded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 100 acres

Map Unit Composition

Clifford and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 5 inches—red clay loam (red, dry)

Subsoil:
5 to 48 inches—red clay
48 to 58 inches—red sandy clay loam

Substratum:
58 to 62 inches—yellowish red loam

Minor Components

Dissimilar components:
- Very deep, moderately well drained Halifax and Jackland soils; in depressional areas
- Moderately deep, well drained Spriggs soils; in depressional areas

Soil Properties and Qualities

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative

impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: X
Hydric soil: No

12A—Codorus loam, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Nearly level flood plains
Shape and size of areas: Long and narrow; 3 to 100 acres

Map Unit Composition

Codorus and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

Typical Profile

Surface layer:
0 to 8 inches—brown loam (pale brown, dry); yellowish red masses of oxidized iron

Subsoil:
8 to 17 inches—brown and yellowish brown loam; yellowish red iron-manganese concretions
17 to 23 inches—grayish brown sandy clay loam; strong brown masses of oxidized iron
23 to 33 inches—light brownish gray sandy clay loam; black iron-manganese nodules and strong brown masses of oxidized iron

Substratum:
33 to 49 inches—dark grayish brown sandy clay loam
49 to 62 inches—dark grayish brown clay loam

Minor Components

Dissimilar components:
- Very deep, moderately well drained Banister soils; on slightly higher landforms

Soil Properties and Qualities

Available water capacity: High (about 10.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Somewhat poorly drained
Depth to seasonal water saturation: About 6 to 18 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable Best Management Practices (BMPs).
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6w
Virginia soil management group: I
Hydric soil: No

13B—Delila fine sandy loam, 0 to 4 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Nearly level to gently sloping drainageways and shallow swales
Shape and size of areas: Irregular; 3 to 75 acres

Map Unit Composition

Delila and similar soils: Typically 80 percent, ranging from about 65 to 85 percent

Typical Profile

Surface layer:
0 to 8 inches—grayish brown sandy loam (pale brown, dry)

Subsoil:
8 to 38 inches—gray clay; yellowish brown masses of oxidized iron

Substratum:
38 to 65 inches—gray sandy loam; yellowish brown masses of oxidized iron

Minor Components

Dissimilar components:
- Very deep, moderately well drained Codorus soils; on higher landforms

Soil Properties and Qualities

Available water capacity: Moderate (about 8.1 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal water saturation: About 0 to 12 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Surface fragments: None
Parent material: Local alluvium and/or colluvium

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, wheat, and grass-legume hay; poorly suited to soybeans

- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited

- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Moderately suited to yellow-poplar

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.
- This soil is well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4w
Virginia soil management group: HH
Hydric soil: Yes

14C—Devotion sandy loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)

Landform: Southern Piedmont, mesic section
Position on the landform: Strongly sloping nose slopes and side slopes
Shape and size of areas: Long and narrow; 5 to 65 acres

Map Unit Composition

Devotion and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 10 inches—brown sandy loam (light yellowish brown, dry)

Subsoil:
10 to 25 inches—yellowish brown sandy loam

Substratum:
25 to 30 inches—olive yellow sandy loam

Soft bedrock:
30 to 52 inches—weathered bedrock

Hard bedrock:
52 to 62 inches—unweathered bedrock

Minor Components

Dissimilar components:
- Very deep, well drained Rasalo and Toast soils; on landforms similar to those of the Devotion soil

Soil Properties and Qualities

Available water capacity: Low (about 3.5 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to northern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: FF
Hydric soil: No

14D—Devotion sandy loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Moderately steep nose slopes and side slopes
Shape and size of areas: Long and narrow; 5 to 45 acres

Map Unit Composition

Devotion and similar soils: Typically 80 percent, ranging from about 75 to 85 percent

Typical Profile

Surface layer:
0 to 10 inches—brown sandy loam (light yellowish brown, dry)

Subsoil:
10 to 25 inches—yellowish brown sandy loam

Substratum:
25 to 30 inches—olive yellow sandy loam

Soft bedrock:
30 to 52 inches—weathered bedrock

Hard bedrock:
52 to 62 inches—unweathered bedrock

Minor Components

Dissimilar components:
- Very deep, well drained Rasalo and Toast soils; on landforms similar to those of the Devotion soil

Soil Properties and Qualities

Available water capacity: Low (about 3.5 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to paralithic bedrock; 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to northern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.

- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: FF
Hydric soil: No

15A—Dogue fine sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Nearly level stream terrace treads
Shape and size of areas: Irregular; 5 to 55 acres

Map Unit Composition

Dogue and similar soils: Typically 80 percent, ranging from about 75 to 85 percent

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown fine sandy loam

Subsurface layer:
2 to 8 inches—light yellowish brown sandy loam

Subsoil:
8 to 14 inches—yellowish brown sandy clay loam
14 to 21 inches—brownish yellow clay loam; light yellowish brown iron depletions
21 to 27 inches—strong brown clay; brown iron depletions and reddish yellow masses of oxidized iron
27 to 32 inches—strong brown clay; light brownish gray and pale brown iron depletions
32 to 38 inches—brown clay; gray iron depletions and strong brown masses of oxidized iron
38 to 54 inches—brown clay loam; strong brown masses of oxidized iron and light brownish gray and gray iron depletions

Substratum:
54 to 65 inches—light brownish gray sandy clay loam; pale yellow masses of oxidized iron

Minor Components

Dissimilar components:
- Very deep, well drained State soils; on slightly higher landforms

Soil Properties and Qualities

Available water capacity: Moderate (about 8.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 36 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Ancient alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, and grass-legume hay
- The high clay content restricts the rooting depth of crops.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

- This soil is well suited to pastureland.

Woodland

Suitability: Well suited to loblolly pine and southern red oak; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2w
Virginia soil management group: K
Hydric soil: No

15B—Dogue fine sandy loam, 2 to 7 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping stream terrace treads
Shape and size of areas: Irregular; 3 to 155 acres

Map Unit Composition

Dogue and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown fine sandy loam

Subsurface layer:
2 to 8 inches—light yellowish brown sandy loam

Subsoil:
8 to 14 inches—yellowish brown sandy clay loam
14 to 21 inches—brownish yellow clay loam; light yellowish brown iron depletions
21 to 27 inches—strong brown clay; brown iron depletions and reddish yellow masses of oxidized iron
27 to 32 inches—strong brown clay; light brownish gray and pale brown iron depletions
32 to 38 inches—brown clay; gray iron depletions and strong brown masses of oxidized iron
38 to 54 inches—brown clay loam; strong brown masses of oxidized iron and light brownish gray and gray iron depletions

Substratum:
54 to 65 inches—light brownish gray sandy clay loam; pale yellow masses of oxidized iron

Minor Components

Dissimilar components:
- Very deep, well drained State soils; on slightly higher landforms

Soil Properties and Qualities

Available water capacity: Moderate (about 8.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 36 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: None
Parent material: Ancient alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and southern red oak; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: K
Hydric soil: No

16B—Enon-Helena complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Enon and Helena soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Enon and similar soils: Typically 35 percent, ranging from about 30 to 45 percent
Helena and similar soils: Typically 30 percent, ranging from about 25 to 40 percent

Typical Profile

Enon

Surface layer:
0 to 1 inch—dark grayish brown sandy loam

Subsurface layer:
1 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 11 inches—yellowish brown sandy clay loam; black iron-manganese concretions
11 to 31 inches—strong brown clay
31 to 38 inches—brown clay; black iron-manganese concretions
38 to 43 inches—brown sandy clay loam; common brownish yellow mottles and black manganese coatings

Substratum:
43 to 53 inches—yellowish brown and brown clay loam; many black mottles and black manganese coatings
53 to 62 inches—strong brown clay loam; common brown mottles and black manganese coatings

Helena

Surface layer:
0 to 9 inches—brown sandy loam

Subsoil:
9 to 11 inches—light yellowish brown sandy clay loam; yellowish brown and brownish yellow masses of oxidized iron
11 to 13 inches—yellowish brown clay; light yellowish brown and strong brown masses of oxidized iron
13 to 22 inches—brownish yellow and strong brown clay; yellowish red masses of oxidized iron
22 to 28 inches—brownish yellow clay; yellowish brown masses of oxidized iron and very pale brown iron depletions
28 to 33 inches—brownish yellow and strong brown clay; red masses of oxidized iron and very pale brown and light brownish gray iron depletions
33 to 43 inches—light yellowish brown clay; strong brown and red masses of oxidized iron and very pale brown and light gray iron depletions

Substratum:
43 to 64 inches—light yellowish brown sandy loam

Minor Components

Dissimilar components:
- Moderately deep, well drained Wateree and Poindexter soils; on landforms similar to those of the Enon and Helena soils

Similar components:
- Very deep, moderately well drained Trenholm soils; in depressional areas

Soil Properties and Qualities

Available water capacity: Enon—moderate (about 8.1 inches); Helena— moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Enon—well drained; Helena—moderately well drained
Depth to seasonal water saturation: Enon—more than 6 feet; Helena—about 12 to 24 inches
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Enon—high; Helena—very high
Surface fragments: None
Parent material: Enon—mafic rock residuum; Helena—granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to grass-legume hay; moderately suited to corn, soybeans, wheat, and tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Well suited

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Poorly suited to loblolly pine; moderately suited to yellow-poplar and sweetgum

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.
- These soils are well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 2e
Virginia soil management group: Enon—Y; Helena—KK
Hydric soils: No

16C—Enon-Helena complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Enon and Helena soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Enon and similar soils: Typically 35 percent, ranging from about 30 to 45 percent
Helena and similar soils: Typically 25 percent, ranging from about 20 to 35 percent

Typical Profile

Enon

Surface layer:
0 to 1 inch—dark grayish brown sandy loam

Subsurface layer:
1 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 11 inches—yellowish brown sandy clay loam; black iron-manganese concretions
11 to 31 inches—strong brown clay
31 to 38 inches—brown clay; black iron-manganese concretions
38 to 43 inches—brown sandy clay loam; common brownish yellow mottles and black manganese coatings

Substratum:
43 to 53 inches—yellowish brown and brown clay loam; many black mottles; black manganese coatings
53 to 62 inches—strong brown clay loam; common brown mottles and black manganese coatings

Helena

Surface layer:
0 to 9 inches—brown sandy loam

Subsoil:
9 to 11 inches—light yellowish brown sandy clay loam; yellowish brown and brownish yellow masses of oxidized iron
11 to 13 inches—yellowish brown clay; light yellowish brown and strong brown masses of oxidized iron
13 to 22 inches—brownish yellow and strong brown clay; yellowish red masses of oxidized iron
22 to 28 inches—brownish yellow clay; yellowish brown masses of oxidized iron and very pale brown iron depletions
28 to 33 inches—brownish yellow and strong brown clay; red masses of oxidized iron and very pale brown and light brownish gray iron depletions
33 to 43 inches—light yellowish brown clay; strong brown and red masses of oxidized iron and very pale brown and light gray iron depletions

Substratum:
43 to 64 inches—light yellowish brown sandy loam

Minor Components

Dissimilar components:
- Moderately deep, well drained Poindexter soils; on landforms similar to those of the Enon and Helena soils

Similar components:
- Very deep, moderately well drained Trenholm soils; in depressional areas

Soil Properties and Qualities

Available water capacity: Enon—moderate (about 8.1 inches); Helena—moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)

Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Enon—well drained; Helena—moderately well drained
Depth to seasonal water saturation: Enon—more than 6 feet; Helena—about 12 to 24 inches
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Enon—high; Helena—very high
Surface fragments: None
Parent material: Enon—mafic rock residuum; Helena—granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, wheat, tobacco, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Poorly suited to loblolly pine; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Enon—Y; Helena—KK
Hydric soils: No

16D—Enon-Helena complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Moderately steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Enon and Helena soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Enon and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Helena and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Enon

Surface layer:
0 to 1 inch—dark grayish brown sandy loam

Subsurface layer:
1 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 11 inches—yellowish brown sandy clay loam; black iron-manganese concretions
11 to 31 inches—strong brown clay
31 to 38 inches—brown clay; black iron-manganese concretions
38 to 43 inches—brown sandy clay loam; common brownish yellow mottles and black manganese coatings

Substratum:
43 to 53 inches—yellowish brown and brown clay loam; many black mottles and black manganese coatings
53 to 62 inches—strong brown clay loam; common brown mottles and black manganese coatings

Helena

Surface layer:
0 to 9 inches—brown sandy loam

Subsoil:
9 to 11 inches—light yellowish brown sandy clay loam; yellowish brown and brownish yellow masses of oxidized iron
11 to 13 inches—yellowish brown clay; light yellowish brown and strong brown masses of oxidized iron
13 to 22 inches—brownish yellow and strong brown clay; yellowish red masses of oxidized iron
22 to 28 inches—brownish yellow clay; yellowish brown masses of oxidized iron and very pale brown iron depletions
28 to 33 inches—brownish yellow and strong brown clay; red masses of oxidized iron and very pale brown and light brownish gray iron depletions
33 to 43 inches—light yellowish brown clay; strong brown and red masses of oxidized iron and very pale brown and light gray iron depletions

Substratum:
43 to 64 inches—light yellowish brown sandy loam

Minor Components

Dissimilar components:
- Moderately deep, well drained Poindexter soils; on landforms similar to those of the Enon and Helena soils

Soil Properties and Qualities

Available water capacity: Enon—moderate (about 8.1 inches); Helena— moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Enon—well drained; Helena—moderately well drained
Depth to seasonal water saturation: Enon—more than 6 feet; Helena—about 12 to 24 inches
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Enon—high; Helena—very high
Surface fragments: None
Parent material: Enon—mafic rock residuum; Helena—granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Poorly suited to loblolly pine; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Enon—Y; Helena—KK
Hydric soils: No

17B—Enon-Helena complex, 2 to 7 percent slopes, very stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Enon and Helena soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Enon and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Helena and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Enon

Surface layer:
0 to 1 inch—dark grayish brown sandy loam

Subsurface layer:
1 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 11 inches—yellowish brown sandy clay loam; black iron-manganese concretions
11 to 31 inches—strong brown clay
31 to 38 inches—brown clay; black iron-manganese concretions
38 to 43 inches—brown sandy clay loam; common brownish yellow mottles and black manganese coatings

Substratum:
43 to 53 inches—yellowish brown and brown clay loam; many black mottles and black manganese coatings
53 to 62 inches—strong brown clay loam; common brown mottles and black manganese coatings

Helena

Surface layer:
0 to 9 inches—brown sandy loam

Subsoil:
9 to 11 inches—light yellowish brown sandy clay loam; yellowish brown and brownish yellow masses of oxidized iron
11 to 13 inches—yellowish brown clay; light yellowish brown and strong brown masses of oxidized iron
13 to 22 inches—brownish yellow and strong brown clay; yellowish red masses of oxidized iron

22 to 28 inches—brownish yellow clay; yellowish brown masses of oxidized iron and very pale brown iron depletions
28 to 33 inches—brownish yellow and strong brown clay; red masses of oxidized iron and very pale brown and light brownish gray iron depletions
33 to 43 inches—light yellowish brown clay; strong brown and red masses of oxidized iron and very pale brown and light gray iron depletions

Substratum:
43 to 64 inches—light yellowish brown sandy loam

Minor Components

Dissimilar components:
- Moderately deep, well drained Poindexter soils; on landforms similar to those of the Enon and Helena soils

Soil Properties and Qualities

Available water capacity: Enon—moderate (about 8.1 inches); Helena— moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Enon—well drained; Helena—moderately well drained
Depth to seasonal water saturation: Enon—more than 6 feet; Helena—about 12 to 24 inches
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Enon—high; Helena—very high
Surface fragments: About 0.10 to 3.00 percent rounded stones
Parent material: Enon—mafic rock residuum; Helena—granite gneiss residuum

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- Large stones on the surface may restrict the operation of some farm machinery.

Woodland

Suitability: Poorly suited to loblolly pine; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6s
Virginia soil management group: Enon—Y; Helena—KK
Hydric soils: No

17C—Enon-Helena complex, 7 to 15 percent slopes, very stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Enon and Helena soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Enon and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Helena and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Enon

Surface layer:
0 to 1 inch—dark grayish brown sandy loam

Subsurface layer:
1 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 11 inches—yellowish brown sandy clay loam; black iron-manganese concretions
11 to 31 inches—strong brown clay

31 to 38 inches—brown clay; black iron-manganese concretions
38 to 43 inches—brown sandy clay loam; common brownish yellow mottles and black manganese coatings

Substratum:
43 to 53 inches—yellowish brown and brown clay loam; many black mottles and black manganese coatings
53 to 62 inches—strong brown clay loam; common brown mottles and black manganese coatings

Helena

Surface layer:
0 to 9 inches—brown sandy loam

Subsoil:
9 to 11 inches—light yellowish brown sandy clay loam; yellowish brown and brownish yellow masses of oxidized iron
11 to 13 inches—yellowish brown clay; light yellowish brown and strong brown masses of oxidized iron
13 to 22 inches—brownish yellow and strong brown clay; yellowish red masses of oxidized iron
22 to 28 inches—brownish yellow clay; yellowish brown masses of oxidized iron and very pale brown iron depletions
28 to 33 inches—brownish yellow and strong brown clay; red masses of oxidized iron and very pale brown and light brownish gray iron depletions
33 to 43 inches—light yellowish brown clay; strong brown and red masses of oxidized iron and very pale brown and light gray iron depletions

Substratum:
43 to 64 inches—light yellowish brown sandy loam

Minor Components

Dissimilar components:
- Moderately deep, well drained Poindexter soils; on landforms similar to those of the Enon and Helena soils

Soil Properties and Qualities

Available water capacity: Enon—moderate (about 8.1 inches); Helena— moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Enon—well drained; Helena—moderately well drained
Depth to seasonal water saturation: Enon—more than 6 feet; Helena—about 12 to 24 inches
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Enon—high; Helena—very high
Surface fragments: About 0.10 to 3.00 percent rounded stones
Parent material: Enon—mafic rock residuum; Helena—granite gneiss residuum

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- Large stones on the surface may restrict the operation of some farm machinery.

Woodland

Suitability: Poorly suited to loblolly pine; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6s
Virginia soil management group: Enon—Y; Helena—KK
Hydric soils: No

18D—Enon-Poindexter complex, 15 to 25 percent slopes, very stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Moderately steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Enon and Poindexter soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Enon and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Poindexter and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Enon

Surface layer:
0 to 1 inch—dark grayish brown sandy loam

Subsurface layer:
1 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 11 inches—yellowish brown sandy clay loam; black iron-manganese concretions
11 to 31 inches—strong brown clay
31 to 38 inches—brown clay; black iron-manganese concretions
38 to 43 inches—brown sandy clay loam; common brownish yellow mottles and black manganese coatings

Substratum:
43 to 53 inches—yellowish brown and brown clay loam; many black mottles and black manganese coatings
53 to 62 inches—strong brown clay loam; common brown mottles and black manganese coatings

Poindexter

Surface layer:
0 to 3 inches—dark yellowish brown sandy loam

Subsurface layer:
3 to 7 inches—brownish yellow sandy loam

Subsoil:
7 to 15 inches—reddish yellow sandy clay loam; many yellowish brown mottles
15 to 28 inches—strong brown clay loam; few yellowish red and few yellowish brown mottles

Substratum:
28 to 39 inches—reddish yellow, yellowish red, and strong brown sandy clay loam; common dark yellowish brown mottles

Soft bedrock:
39 to 62 inches—yellowish brown weakly cemented granodiorite bedrock

Minor Components

Similar components:
- Very deep, well drained Helena soils; on slightly lower landforms

Soil Properties and Qualities

Available water capacity: Enon—moderate (about 8.1 inches); Poindexter—low (about 5.5 inches)
Slowest saturated hydraulic conductivity: Enon—moderately low (about 0.06 in/hr); Poindexter—moderately high (about 0.57 in/hr)
Depth class: Enon—very deep (more than 60 inches); Poindexter—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Enon—more than 60 inches; Poindexter—20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Enon—high; Poindexter—low
Runoff class: High
Surface fragments: About 0.10 to 3.00 percent rounded stones
Parent material: Enon—mafic rock residuum; Poindexter—granodiorite residuum

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Poorly suited to loblolly pine; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- Because of the nature and depth of the soft bedrock, the ease of excavation is

reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7s
Virginia soil management group: Enon—Y; Poindexter—FF
Hydric soils: No

19D—Fairview-Devotion complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Moderately steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Fairview and Devotion soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Fairview and similar soils: Typically 60 percent, ranging from about 55 to 65 percent
Devotion and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Fairview

Surface layer:
0 to 1 inch—brown sandy loam (yellowish brown, dry)

Subsurface layer:
1 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 20 inches—red clay
20 to 23 inches—red sandy clay
23 to 38 inches—strong brown and yellowish red sandy loam

Substratum:
38 to 62 inches—strong brown sandy loam

Devotion

Surface layer:
0 to 10 inches—brown sandy loam (light yellowish brown, dry)

Subsoil:
10 to 25 inches—yellowish brown sandy loam

Substratum:
25 to 30 inches—olive yellow sandy loam

Soft bedrock:
30 to 52 inches—weathered bedrock

Hard bedrock:
52 to 62 inches—unweathered bedrock

Minor Components

Dissimilar components:
- Very deep, moderately well drained Halifax soils; on landforms similar to those of the Fairview and Devotion soils

Similar components:
- Moderately deep, well drained Spriggs soils; on landforms similar to those of the Fairview and Devotion soils

Soil Properties and Qualities

Available water capacity: Fairview—moderate (about 6.7 inches); Devotion—low (about 3.5 inches)
Slowest saturated hydraulic conductivity: Fairview—moderately high (about 0.64 in/hr); Devotion—high (about 1.98 in/hr)
Depth class: Fairview—very deep (more than 60 inches); Devotion—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Fairview—more than 60 inches; Devotion—20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Fairfiew—X; Devotion—FF
Hydric soils: No

19E—Fairview-Devotion complex, 25 to 45 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Fairview and Devotion soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Fairview and similar soils: Typically 50 percent, ranging from about 40 to 55 percent
Devotion and similar soils: Typically 40 percent, ranging from about 35 to 50 percent

Typical Profile

Fairview

Surface layer:
0 to 1 inch—brown sandy loam (yellowish brown, dry)

Subsurface layer:
1 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 20 inches—red clay
20 to 23 inches—red sandy clay
23 to 38 inches—strong brown and yellowish red sandy loam

Substratum:
38 to 62 inches—strong brown sandy loam

Devotion

Surface layer:
0 to 10 inches—brown sandy loam (light yellowish brown, dry)

Subsoil:
10 to 25 inches—yellowish brown sandy loam

Substratum:
25 to 30 inches—olive yellow sandy loam

Soft bedrock:
30 to 52 inches—weathered bedrock

Hard bedrock:
52 to 62 inches—unweathered bedrock

Minor Components

Similar components:
- Moderately deep, well drained Spriggs soils; on landforms similar to those of the Fairview and Devotion soils

Soil Properties and Qualities

Available water capacity: Fairview—moderate (about 6.7 inches); Devotion—low (about 3.5 inches)
Slowest saturated hydraulic conductivity: Fairview—moderately high (about 0.64 in/hr); Devotion—high (about 1.98 in/hr)
Depth class: Fairview—very deep (more than 60 inches); Devotion—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Fairview—more than 60 inches; Devotion—20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None

Shrink-swell potential: Low
Runoff class: Fairview—high; Devotion—very high
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable Best Management Practices (BMPs).
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6e
Virginia soil management group: Fairfiew—X; Devotion—FF
Hydric soils: No

20B—Halifax sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Halifax and similar soils: Typically 80 percent, ranging from about 70 to 85 percent

Typical Profile

Surface layer:
0 to 13 inches—light olive brown sandy loam (light yellowish brown, dry)

Subsoil:
13 to 25 inches—brownish yellow clay; red masses of oxidized iron
25 to 39 inches—brownish yellow clay; red masses of oxidized iron and light gray iron depletions
39 to 58 inches—gray clay; brownish yellow and olive yellow masses of oxidized iron

Substratum:
58 to 65 inches—pale yellow and yellowish brown clay loam; olive yellow masses of oxidized iron

Minor Components

Dissimilar components:
- Very deep, poorly drained Delila soils; on lower landforms

Similar components:
- Very deep, well drained Rasalo soils; on slightly higher landforms

Soil Properties and Qualities

Available water capacity: Moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Very high
Surface fragments: None
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn, soybeans, and wheat
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings and to equipment operations.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: KK
Hydric soil: No

20C—Halifax sandy loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Halifax and similar soils: Typically 80 percent, ranging from about 70 to 85 percent

Typical Profile

Surface layer:
0 to 13 inches—light olive brown sandy loam (light yellowish brown, dry)

Subsoil:
13 to 25 inches—brownish yellow clay; red masses of oxidized iron
25 to 39 inches—brownish yellow clay; red masses of oxidized iron and light gray iron depletions
39 to 58 inches—gray clay; brownish yellow and olive yellow masses of oxidized iron

Substratum:
58 to 65 inches—pale yellow and yellowish brown clay loam; olive yellow masses of oxidized iron

Minor Components

Dissimilar components:
- Very deep, poorly drained Delila soils; on lower landforms
- Moderately deep, well drained Spriggs soils; on slightly higher landforms

Soil Properties and Qualities

Available water capacity: Moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Very high
Surface fragments: None
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn, soybeans, and wheat
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.

- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: KK
Hydric soil: No

21B—Helena sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Helena and similar soils: Typically 80 percent, ranging from about 70 to 85 percent

Typical Profile

Surface layer:
0 to 9 inches—brown sandy loam

Subsoil:
9 to 11 inches—light yellowish brown sandy clay loam; yellowish brown and brownish yellow masses of oxidized iron
11 to 13 inches—yellowish brown clay; light yellowish brown and strong brown masses of oxidized iron

13 to 22 inches—brownish yellow and strong brown clay; yellowish red masses of oxidized iron
22 to 28 inches—brownish yellow clay; yellowish brown masses of oxidized iron and very pale brown iron depletions
28 to 33 inches—brownish yellow and strong brown clay; red masses of oxidized iron and very pale brown and light brownish gray iron depletions
33 to 43 inches—light yellowish brown clay; strong brown and red masses of oxidized iron and very pale brown and light gray iron depletions

Substratum:
43 to 64 inches—light yellowish brown sandy loam

Minor Components

Dissimilar components:
- Very deep, poorly drained Worsham soils; in drainageways

Similar components:
- Very deep, well drained Enon soils; on slightly higher landforms

Soil Properties and Qualities

Available water capacity: Moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 12 to 24 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Very high
Surface fragments: None
Parent material: Granite and gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn, soybeans, and wheat
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).

- Soil wetness may limit the use of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.
- This soil is well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: KK
Hydric soil: No

21C—Helena sandy loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Helena and similar soils: Typically 70 percent, ranging from about 65 to 75 percent

Typical Profile

Surface layer:
0 to 9 inches—brown sandy loam

Subsoil:
9 to 11 inches—light yellowish brown sandy clay loam; yellowish brown and brownish yellow masses of oxidized iron
11 to 13 inches—yellowish brown clay; light yellowish brown and strong brown masses of oxidized iron

13 to 22 inches—brownish yellow and strong brown clay; yellowish red masses of oxidized iron
22 to 28 inches—brownish yellow clay; yellowish brown masses of oxidized iron and very pale brown iron depletions
28 to 33 inches—brownish yellow and strong brown clay; red masses of oxidized iron and very pale brown and light brownish gray iron depletions
33 to 43 inches—light yellowish brown clay; strong brown and red masses of oxidized iron and very pale brown and light gray iron depletions

Substratum:
43 to 64 inches—light yellowish brown sandy loam

Minor Components

Dissimilar components:
- Very deep, poorly drained Worsham soils; in drainageways
- Moderately deep, well drained Poindexter soils; on slightly higher landforms

Soil Properties and Qualities

Available water capacity: Moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 12 to 24 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Very high
Surface fragments: None
Parent material: Granite and gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn, soybeans, and wheat
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.

- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: KK
Hydric soil: No

22B—Jackland-Mirerock complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Jackland and Mirerock soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Jackland and similar soils: Typically 55 percent, ranging from about 50 to 60 percent
Mirerock and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Jackland

Surface layer:
0 to 8 inches—dark yellowish brown loam (yellowish brown, dry)

Subsoil:
8 to 30 inches—yellowish brown clay; light gray iron depletions

Substratum:
30 to 65 inches—yellowish brown and olive sandy loam

Mirerock

Surface layer:
0 to 1 inch—dark brown loam

Subsurface layer:
1 to 5 inches—light olive brown fine sandy loam

Subsoil:
5 to 30 inches—yellowish brown and pale brown silty clay; black iron-manganese nodules

Soft bedrock:
30 to 60 inches—weakly cemented amphibolite bedrock

Minor Components

Dissimilar components:
- Very deep, well drained Oak Level soils; on landforms similar to those of the Jackland and Mirerock soils
- Shallow, well drained Siloam soils; on landforms similar to those of the Jackland and Mirerock soils

Similar components:
- Moderately deep, well drained Spriggs soils; on landforms similar to those of the Jackland and Mirerock soils

Soil Properties and Qualities

Available water capacity: Jackland—moderate (about 7.3 inches); Mirerock—low (about 4.4 inches)
Slowest saturated hydraulic conductivity: Jackland—low (about 0.00 in/hr); Mirerock—moderately high (about 0.20 in/hr)
Depth class: Jackland—very deep (more than 60 inches); Mirerock—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Jackland—more than 60 inches; Mirerock—20 to 40 inches to paralithic bedrock
Drainage class: Jackland—somewhat poorly drained; Mirerock—well drained
Depth to seasonal water saturation: Jackland—about 12 to 24 inches; Mirerock—more than 6 feet
Water table kind: Jackland—perched; Mirerock—not applicable
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Jackland—very high; Mirerock—moderate
Runoff class: Jackland—very high; Mirerock—high
Surface fragments: None
Parent material: Jackland—amphibolite residuum; Mirerock—amphibole-chlorite schist residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn, soybeans, and wheat
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Jackland—4w; Mirerock—2e
Virginia soil management group: KK
Hydric soils: No

23B—Mattaponi-Appling complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Mattaponi and Appling soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Mattaponi and similar soils: Typically 65 percent, ranging from about 60 to 70 percent
Appling and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Mattaponi

Surface layer:
0 to 10 inches—brown sandy loam (light yellowish brown, dry)

Subsurface layer:
10 to 14 inches—light yellowish brown sandy loam

Subsoil:
14 to 19 inches—brownish yellow clay
19 to 25 inches—brownish yellow clay; common strong brown mottles
25 to 36 inches—strong brown clay; common yellowish red mottles
36 to 60 inches—strong brown clay loam; red masses of oxidized iron and light gray iron depletions

Appling

Surface layer:
0 to 10 inches—brown sandy loam

Subsoil:
10 to 16 inches—yellowish brown clay
16 to 26 inches—yellowish brown clay; common strong brown mottles
26 to 57 inches—yellowish brown clay; common red mottles
57 to 65 inches—brownish yellow clay loam; common red and common yellowish red mottles

Minor Components

Similar components:
- Very deep, moderately well drained Helena soils; on slightly lower landforms

Soil Properties and Qualities

Available water capacity: Mattaponi—moderate (about 8.8 inches); Appling—high (about 9.2 inches)
Slowest saturated hydraulic conductivity: Mattaponi—moderately high (about 0.20 in/hr); Appling—moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Mattaponi—moderately well drained; Appling—well drained
Depth to seasonal water saturation: Mattaponi—about 36 to 60 inches; Appling—more than 6 feet
Water table kind: Mattaponi—apparent; Appling—not applicable
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Mattaponi—moderate; Appling—low
Runoff class: Mattaponi—high; Appling—medium
Surface fragments: None
Parent material: Mattaponi—ancient alluvium capping; Appling—granite and gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to soybeans, wheat, and grass-legume hay; moderately suited to corn
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- These soils are well suited to haul roads and log landings and to equipment operations.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: Mattaponi—R; Appling—V
Hydric soils: No

24B—Mayodan-Exway complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Mayodan and Exway soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Mayodan and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Exway and similar soils: Typically 40 percent, ranging from about 35 to 50 percent

Typical Profile

Mayodan

Surface layer:
0 to 5 inches—brown fine sandy loam

Subsurface layer:
5 to 10 inches—brown gravelly sandy loam

Subsoil:
10 to 14 inches—strong brown clay; many yellowish red mottles
14 to 21 inches—yellowish red clay; many red mottles
21 to 28 inches—yellowish red clay; common brownish yellow and common red mottles
28 to 38 inches—reddish yellow silty clay loam; few dark reddish brown, common yellowish brown, and many yellowish red mottles
38 to 52 inches—yellowish red silty clay loam; few yellow, common red, and many brownish yellow mottles

Substratum:
52 to 62 inches—dark red loam; few yellow mottles

Exway

Surface layer:
0 to 4 inches—dark reddish brown clay loam

Subsoil:
4 to 12 inches—dark red silty clay (reddish brown, dry); common yellowish red mottles

12 to 19 inches—dark reddish brown silty clay (reddish brown, dry); common reddish yellow, common dark red, and common red mottles
19 to 24 inches—dark reddish brown silty clay loam; common pinkish gray, common dark red, common reddish yellow, and common red mottles

Soft bedrock:
24 to 41 inches—bedrock

Minor Components

Similar components:
- Very deep, moderately well drained Creedmoor soils; on slightly lower landforms
- Very deep, moderately well drained Mattaponi soils; on landforms similar to those of the Mayodan and Exway soils

Soil Properties and Qualities

Available water capacity: Mayodan—moderate (about 8.7 inches); Exway—low (about 4.1 inches)
Slowest saturated hydraulic conductivity: Mayodan—moderately high (about 0.57 in/hr); Exway—moderately high (about 0.20 in/hr)
Depth class: Mayodan—very deep (more than 60 inches); Exway—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Mayodan—more than 60 inches; Exway—20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Mayodan—Triassic siltstone residuum; Exway—Triassic mudstone and siltstone residuum

Use and Management Considerations

Cropland

Suitability: Well suited to wheat and grass-legume hay; moderately suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.

- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- These soils are well suited to septic tank absorption fields.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: Mayodan—V; Exway—X
Hydric soils: No

24C—Mayodan-Exway complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Mayodan and Exway soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Mayodan and similar soils: Typically 41 percent, ranging from about 35 to 45 percent
Exway and similar soils: Typically 40 percent, ranging from about 35 to 50 percent

Typical Profile

Mayodan

Surface layer:
0 to 5 inches—brown fine sandy loam

Subsurface layer:
5 to 10 inches—brown gravelly sandy loam

Subsoil:
10 to 14 inches—strong brown clay; many yellowish red mottles
14 to 21 inches—yellowish red clay; many red mottles
21 to 28 inches—yellowish red clay; common brownish yellow and common red mottles
28 to 38 inches—reddish yellow silty clay loam; few dark reddish brown, common yellowish brown, and many yellowish red mottles
38 to 52 inches—yellowish red silty clay loam; few yellow, common red, and many brownish yellow mottles

Substratum:
52 to 62 inches—dark red loam; few yellow mottles

Exway

Surface layer:
0 to 4 inches—dark reddish brown clay loam

Subsoil:
4 to 12 inches—dark red silty clay (reddish brown, dry); common yellowish red mottles
12 to 19 inches—dark reddish brown silty clay (reddish brown, dry); common reddish yellow, common dark red, and common red mottles
19 to 24 inches—dark reddish brown silty clay loam; common pinkish gray, common dark red, common reddish yellow, and common red mottles

Soft bedrock:
24 to 41 inches—bedrock

Minor Components

Dissimilar components:
- Moderately deep, well drained Pinoka soils; on landforms similar to those of the Mayodan and Exway soils

Similar components:
- Very deep, moderately well drained Creedmoor soils; on slightly lower landforms

Soil Properties and Qualities

Available water capacity: Mayodan—moderate (about 8.7 inches); Exway—low (about 4.1 inches)
Slowest saturated hydraulic conductivity: Mayodan—moderately high (about 0.57 in/hr); Exway—moderately high (about 0.20 in/hr)
Depth class: Mayodan—very deep (more than 60 inches); Exway—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Mayodan—more than 60 inches; Exway—20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Mayodan—Triassic siltstone residuum; Exway—Triassic mudstone and siltstone residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Mayodan—V; Exway—X
Hydric soils: No

25B—Mecklenburg loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Mecklenburg and similar soils: Typically 75 percent, ranging from about 70 to 80 percent

Typical Profile

Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 39 inches—yellowish red clay; black iron-manganese masses
39 to 50 inches—yellowish red loam; many reddish yellow mottles and black iron-manganese masses

Substratum:
50 to 65 inches—red, brownish yellow, and reddish yellow loam; black iron-manganese masses

Minor Components

Dissimilar components:
- Very deep, moderately well drained Trenholm soils; on slightly lower landforms

Similar components:
- Moderately deep, well drained Poindexter soils; on landforms similar to those of the Mecklenburg soil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Surface fragments: None
Parent material: Mafic crystalline rock residuum

Use and Management Considerations

Cropland

Suitability: Well suited to wheat and grass-legume hay; moderately suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: V
Hydric soil: No

25C—Mecklenburg loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section

Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Mecklenburg and similar soils: Typically 65 percent, ranging from about 60 to 75 percent

Typical Profile

Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 39 inches—yellowish red clay; black iron-manganese masses
39 to 50 inches—yellowish red loam; many reddish yellow mottles and black iron-manganese masses

Substratum:
50 to 65 inches—red, brownish yellow, and reddish yellow loam; black iron-manganese masses

Minor Components

Dissimilar components:
- Moderately deep, well drained Poindexter soils; on landforms similar to those of the Mecklenburg soil

Similar components:
- Very deep, well drained Enon soils; on landforms similar to those of the Mecklenburg soil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Surface fragments: None
Parent material: Mafic crystalline rock residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: V
Hydric soil: No

26B—Nathalie sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Nathalie and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 9 inches—yellowish brown sandy loam (light yellowish brown, dry)

Subsoil:
9 to 12 inches—strong brown sandy clay loam
12 to 27 inches—strong brown clay; common brownish yellow and common red mottles
27 to 42 inches—brownish yellow clay; many red mottles
42 to 52 inches—yellowish red clay loam; many yellow mottles

Substratum:
52 to 65 inches—brownish yellow and yellowish red loam

Minor Components

Similar components:
- Very deep, well drained Bentley soils; on landforms similar to those of the Nathalie soils
- Very deep, moderately well drained Halifax soils; on slightly lower landforms

Soil Properties and Qualities

Available water capacity: High (about 9.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to wheat and grass-legume hay; moderately suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings and to equipment operations.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.
- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: V
Hydric soil: No

27C—Nathalie-Halifax complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Nathalie and Halifax soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Nathalie and similar soils: Typically 55 percent, ranging from about 50 to 60 percent
Halifax and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Nathalie

Surface layer:
0 to 9 inches—yellowish brown sandy loam (light yellowish brown, dry)

Subsoil:
9 to 12 inches—strong brown sandy clay loam
12 to 27 inches—strong brown clay; common brownish yellow and common red mottles
27 to 42 inches—brownish yellow clay; many red mottles
42 to 52 inches—yellowish red clay loam; many yellow mottles

Substratum:
52 to 65 inches—brownish yellow and yellowish red loam

Halifax

Surface layer:
0 to 13 inches—light olive brown sandy loam (light yellowish brown, dry)

Subsoil:
13 to 25 inches—brownish yellow clay; red masses of oxidized iron
25 to 39 inches—brownish yellow clay; red masses of oxidized iron and light gray iron depletions
39 to 58 inches—gray clay; brownish yellow and olive yellow masses of oxidized iron

Substratum:
58 to 65 inches—pale yellow and yellowish brown clay loam; olive yellow masses of oxidized iron

Minor Components

Dissimilar components:
- Very deep, poorly drained Delilia soils; in swales
- Moderately deep, well drained Spriggs soils; on landforms similar to those of the Nathalie and Halifax soils

Similar components:
- Very deep, well drained Bentley soils; on landforms similar to those of the Nathalie and Halifax soils

Soil Properties and Qualities

Available water capacity: Nathalie—high (about 9.1 inches); Halifax—moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Nathalie—moderately high (about 0.64 in/hr); Halifax—moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Nathalie—well drained; Halifax—moderately well drained
Depth to seasonal water saturation: Nathalie—more than 6 feet; Halifax—about 18 to 30 inches
Water table kind: Nathalie—not applicable; Halifax—perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Nathalie—low; Halifax—high
Runoff class: Nathalie—medium; Halifax—very high
Surface fragments: None
Parent material: Nathalie—granite gneiss residuum; Halifax—hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.

- The slope may restrict the use of some mechanical planting equipment.
- These soils are well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low soil strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Nathalie—V; Halifax—KK
Hydric soils: No

28B—Oak Level-Diana Mills complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Oak Level and Diana Mills soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Oak Level and similar soils: Typically 45 percent, ranging from about 40 to 55 percent
Diana Mills and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Oak Level

Surface layer:
0 to 8 inches—reddish brown loam (reddish brown, dry)

Subsoil:
8 to 18 inches—red clay

18 to 32 inches—red clay; few strong brown mottles
32 to 42 inches—red clay loam; few brownish yellow mottles
42 to 50 inches—yellowish red loam; few brownish yellow mottles and black iron-manganese nodules

Substratum:
50 to 65 inches—yellowish red loam; few brownish yellow mottles and black iron-manganese nodules

Diana Mills

Surface layer:
0 to 5 inches—brown paracobbly loam

Subsurface layer:
5 to 10 inches—yellowish red paracobbly loam

Subsoil:
10 to 26 inches—red very paracobbly clay
26 to 42 inches—red clay

Soft bedrock:
42 to 52 inches—red, yellowish brown, and strong brown bedrock

Minor Components

Dissimilar components:
- Moderately deep, well drained Spriggs soils; on landforms similar to those of the Oak Level and Diana Mills soils
- Shallow, well drained Siloam soils; on landforms similar to those of the Oak Level and Diana Mills soils

Similar components:
- Very deep, moderately well drained Jackland soils; on slightly lower landforms

Soil Properties and Qualities

Available water capacity: Oak Level—moderate (about 8.5 inches); Diana Mills—moderate (about 7.3 inches)
Slowest saturated hydraulic conductivity: Oak Level—moderately high (about 0.21 in/hr); Diana Mills—moderately low (about 0.06 in/hr)
Depth class: Oak Level—very deep (more than 60 inches); Diana Mills—deep (40 to 60 inches)
Depth to root-restrictive feature: Oak Level—more than 60 inches; Diana Mills—40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Oak Level—medium; Diana Mills—very high
Surface fragments: None
Parent material: Oak Level—hornblende gneiss residuum; Diana Mills—metavolcanic residuum

Use and Management Considerations

Cropland

Suitability: Well suited to wheat and grass-legume hay; moderately suited to corn and soybeans

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: Oak Level—V; Diana Mills—KK
Hydric soils: No

29C—Oak Level-Siloam complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Oak Level and Siloam soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Oak Level and similar soils: Typically 40 percent, ranging from about 35 to 50 percent
Siloam and similar soils: Typically 25 percent, ranging from about 20 to 35 percent

Typical Profile

Oak Level

Surface layer:
0 to 8 inches—reddish brown loam (reddish brown, dry)

Subsoil:
8 to 18 inches—red clay
18 to 32 inches—red clay; few strong brown mottles
32 to 42 inches—red clay loam; few brownish yellow mottles
42 to 50 inches—yellowish red loam; few brownish yellow mottles and black iron-manganese nodules

Substratum:
50 to 65 inches—yellowish red loam; few brownish yellow mottles and black iron-manganese nodules

Siloam

Surface layer:
0 to 8 inches—dark yellowish brown fine sandy loam (dark yellowish brown, dry)

Subsoil:
8 to 13 inches—dark yellowish brown sandy clay loam; yellowish brown masses of oxidized iron
13 to 15 inches—dark yellowish brown sandy clay loam; yellowish brown masses of oxidized iron

Soft bedrock:
15 to 26 inches—very strongly cemented gneiss bedrock

Hard bedrock:
26 to 36 inches—very strongly cemented gneiss bedrock

Minor Components

Dissimilar components:
- Moderately deep, well drained Spriggs soils; on landforms similar to those of the Oak Level and Siloam soils
- Deep, well drained Diana Mills soils; on landforms similar to those of the Oak Level and Siloam soils

Soil Properties and Qualities

Available water capacity: Oak Level—moderate (about 8.5 inches); Siloam—very low (about 2.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.21 in/hr)
Depth class: Oak Level—very deep (more than 60 inches); Siloam—shallow (10 to 20 inches)
Depth to root-restrictive feature: Oak Level—more than 60 inches; Siloam—10 to 20 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet

Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Oak Level—high; Siloam—very high
Surface fragments: None
Parent material: Oak Level—hornblende gneiss residuum; Siloam—greenstone residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Oak Level—3e; Siloam—4s
Virginia soil management group: Oak Level—V; Siloam—JJ
Hydric soils: No

29D—Oak Level-Siloam complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Moderately steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Oak Level and Siloam soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Oak Level and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Siloam and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Oak Level

Surface layer:
0 to 8 inches—reddish brown loam (reddish brown, dry)

Subsoil:
8 to 18 inches—red clay
18 to 32 inches—red clay; few strong brown mottles
32 to 42 inches—red clay loam; few brownish yellow mottles
42 to 50 inches—yellowish red loam; few brownish yellow mottles and black iron-manganese nodules

Substratum:
50 to 65 inches—yellowish red loam; few brownish yellow mottles and black iron-manganese nodules

Siloam

Surface layer:
0 to 8 inches—dark yellowish brown fine sandy loam (dark yellowish brown, dry)

Subsoil:
8 to 13 inches—dark yellowish brown sandy clay loam; yellowish brown masses of oxidized iron
13 to 15 inches—dark yellowish brown sandy clay loam; yellowish brown masses of oxidized iron

Soft bedrock:
15 to 26 inches—very strongly cemented gneiss bedrock

Hard bedrock:
26 to 36 inches—very strongly cemented gneiss bedrock

Minor Components

Dissimilar components:
- Very deep, well drained Rasalo soils; on landforms similar to those of the Oak Level and Siloam soils
- Moderately deep, well drained Spriggs soils; on landforms similar to those of the Oak Level and Siloam soils

Soil Properties and Qualities

Available water capacity: Oak Level—moderate (about 8.5 inches); Siloam—very low (about 2.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.21 in/hr)
Depth class: Oak Level—very deep (more than 60 inches); Siloam—shallow (10 to 20 inches)
Depth to root-restrictive feature: Oak Level—more than 60 inches; Siloam—10 to 20 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Surface fragments: None
Parent material: Oak Level—hornblende gneiss residuum; Siloam—greenstone residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.

- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Oak Level—V; Siloam—JJ
Hydric soils: No

30D—Pacolet-Wateree complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Moderately steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Pacolet and Wateree soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Pacolet and similar soils: Typically 60 percent, ranging from about 55 to 65 percent
Wateree and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Pacolet

Surface layer:
0 to 4 inches—brown sandy clay loam

Subsoil:
4 to 17 inches—red clay; common yellowish red mottles
17 to 26 inches—red and yellowish red sandy clay loam

Substratum:
26 to 61 inches—yellowish red sandy loam; many light yellowish brown mottles

Wateree

Surface layer:
0 to 2 inches—dark grayish brown fine sandy loam

Subsurface layer:
2 to 6 inches—brown fine sandy loam

Subsoil:
6 to 19 inches—yellowish brown sandy loam

Substratum:
19 to 39 inches—strong brown sandy loam; common very dark grayish brown and common brown mottles

Soft bedrock:
39 to 59 inches—strong brown, very dark grayish brown, and yellow granite bedrock

Hard bedrock:
59 to 69 inches—granite bedrock

Minor Components

Dissimilar components:
- Moderately deep, well drained Poindexter soils; on landforms similar to those of the Pacolet and Wateree soils

Similar components:
- Very deep, moderately well drained Helena soils; on slightly lower landforms

Soil Properties and Qualities

Available water capacity: Pacolet—moderate (about 6.8 inches); Wateree—low (about 3.5 inches)
Slowest saturated hydraulic conductivity: Pacolet—moderately high (about 0.57 in/hr); Wateree—high (about 1.98 in/hr)
Depth class: Pacolet—very deep (more than 60 inches); Wateree—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Pacolet—more than 60 inches; Wateree—20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Pacolet—high; Wateree—medium
Surface fragments: None

Parent material: Pacolet—granite gneiss residuum; Wateree—granite and granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Poorly suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to yellow-poplar; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Pacolet—X; Wateree—FF
Hydric soils: No

30E—Pacolet-Wateree complex, 25 to 45 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Moderately steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Pacolet and Wateree soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Pacolet and similar soils: Typically 70 percent, ranging from about 65 to 75 percent
Wateree and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Typical Profile

Pacolet

Surface layer:
0 to 4 inches—brown sandy clay loam

Subsoil:
4 to 17 inches—red clay; common yellowish red mottles
17 to 26 inches—red and yellowish red sandy clay loam

Substratum:
26 to 61 inches—yellowish red sandy loam; many light yellowish brown mottles

Wateree

Surface layer:
0 to 2 inches—dark grayish brown fine sandy loam

Subsurface layer:
2 to 6 inches—brown fine sandy loam

Subsoil:
6 to 19 inches—yellowish brown sandy loam

Substratum:
19 to 39 inches—strong brown sandy loam; common very dark grayish brown and common brown mottles

Soft bedrock:
39 to 59 inches—strong brown, very dark grayish brown, and yellow granite bedrock

Hard bedrock:
59 to 69 inches—granite bedrock

Minor Components

Dissimilar components:
- Moderately deep, well drained Poindexter soils; on landforms similar to those of the Pacolet and Wateree soils

Soil Properties and Qualities

Available water capacity: Pacolet—moderate (about 6.8 inches); Wateree—low (about 3.5 inches)
Slowest saturated hydraulic conductivity: Pacolet—moderately high (about 0.57 in/hr); Wateree—high (about 1.98 in/hr)

Depth class: Pacolet—very deep (more than 60 inches); Wateree—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Pacolet—more than 60 inches; Wateree—20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Pacolet—high; Wateree—medium
Surface fragments: None
Parent material: Pacolet—granite gneiss residuum; Wateree—granite and granite gneiss residuum

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- The slope may restrict the use of some farm equipment.

Woodland

Suitability: Moderately suited to yellow-poplar; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable Best Management Practices (BMPs).
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- Because of the slope, the use of mechanical planting equipment is impractical.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6e
Virginia soil management group: Pacolet—X; Wateree—FF
Hydric soils: No

31B—Pinoka-Carbonton complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Pinoka and Carbonton soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Pinoka and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Carbonton and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Pinoka

Surface layer:
0 to 10 inches—brown gravelly fine sandy loam

Subsurface layer:
10 to 18 inches—dark yellowish brown fine sandy loam

Subsoil:
18 to 27 inches—reddish brown loam

Soft bedrock:
27 to 80 inches—bedrock

Carbonton

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsoil:
3 to 8 inches—brown fine sandy loam
8 to 12 inches—strong brown clay loam
12 to 20 inches—dark red clay
20 to 24 inches—reddish brown clay
24 to 28 inches—dark reddish brown clay loam

Soft bedrock:
28 to 56 inches—dark reddish brown (dry) bedrock

Minor Components

Dissimilar components:
- Very deep, well drained Mayodan soils; on landforms similar to those of the Pinoka and Carbonton soils

Similar components:
- Deep, moderately well drained Brickhaven soils; on slightly lower landforms

Soil Properties and Qualities

Available water capacity: Pinoka—low (about 3.8 inches); Carbonton—low (about 4.2 inches)
Slowest saturated hydraulic conductivity: Pinoka—high (about 1.98 in/hr); Carbonton—moderately low (about 0.06 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Pinoka—well drained; Carbonton—somewhat poorly drained
Depth to seasonal water saturation: Pinoka—more than 6 feet; Carbonton—about 12 to 24 inches
Water table kind: Pinoka—not applicable; Carbonton—perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Pinoka—low; Carbonton—moderate
Runoff class: Pinoka—very low; Carbonton—high
Surface fragments: None
Parent material: Pinoka—Triassic sandstone and siltstone residuum; Carbonton—Triassic siltstone residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Pinoka—2e; Carbonton—4w
Virginia soil management group: Pinoka—JJ; Carbonton—Y
Hydric soils: No

31C—Pinoka-Carbonton complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Pinoka and Carbonton soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Pinoka and similar soils: Typically 40 percent, ranging from about 35 to 45 percent
Carbonton and similar soils: Typically 30 percent, ranging from about 20 to 35 percent

Typical Profile

Pinoka

Surface layer:
0 to 10 inches—brown gravelly fine sandy loam

Subsurface layer:
10 to 18 inches—dark yellowish brown fine sandy loam

Subsoil:
18 to 27 inches—reddish brown loam

Soft bedrock:
27 to 80 inches—bedrock

Carbonton

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsoil:
3 to 8 inches—brown fine sandy loam
8 to 12 inches—strong brown clay loam
12 to 20 inches—dark red clay
20 to 24 inches—reddish brown clay
24 to 28 inches—dark reddish brown clay loam

Soft bedrock:
28 to 56 inches—dark reddish brown (dry) bedrock

Minor Components

Dissimilar components:
- Very deep, well drained Enon soils; on landforms similar to those of the Pinoka and Carbonton soils
- Very deep, moderately well drained Creedmoor soils; on slightly lower landforms

Similar components:
- Deep, moderately well drained Brickhaven soils; on slightly lower landforms

Soil Properties and Qualities

Available water capacity: Pinoka—low (about 3.8 inches); Carbonton—low (about 4.2 inches)
Slowest saturated hydraulic conductivity: Pinoka—high (about 1.98 in/hr); Carbonton—moderately low (about 0.06 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Pinoka—well drained; Carbonton—somewhat poorly drained
Depth to seasonal water saturation: Pinoka—more than 6 feet; Carbonton—about 12 to 24 inches
Water table kind: Pinoka—not applicable; Carbonton—perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Pinoka—low; Carbonton—moderate
Runoff class: Pinoka—low; Carbonton—very high
Surface fragments: None
Parent material: Pinoka—Triassic sandstone and siltstone residuum; Carbonton—Triassic siltstone residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Pinoka—3e; Carbonton—4w
Virginia soil management group: Pinoka—JJ; Carbonton—Y
Hydric soils: No

31D—Pinoka-Carbonton complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Moderately steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Pinoka and Carbonton soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Pinoka and similar soils: Typically 30 percent, ranging from about 25 to 35 percent
Carbonton and similar soils: Typically 20 percent, ranging from about 10 to 25 percent

Typical Profile

Pinoka

Surface layer:
0 to 10 inches—brown gravelly fine sandy loam

Subsurface layer:
10 to 18 inches—dark yellowish brown fine sandy loam

Subsoil:
18 to 27 inches—reddish brown loam

Soft bedrock:
27 to 80 inches—bedrock

Carbonton

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsoil:
3 to 8 inches—brown fine sandy loam
8 to 12 inches—strong brown clay loam
12 to 20 inches—dark red clay
20 to 24 inches—reddish brown clay
24 to 28 inches—dark reddish brown clay loam

Soft bedrock:
28 to 56 inches—dark reddish brown (dry) bedrock

Minor Components

Dissimilar components:
- Very deep, well drained Mayodan soils; on landforms similar to those of the Pinoka and Carbonton soils
- Very deep, moderately well drained Creedmoor soils; on slightly lower landforms

Similar components:
- Deep, moderately well drained Brickhaven soils; on slightly lower landforms

Soil Properties and Qualities

Available water capacity: Pinoka—low (about 3.8 inches); Carbonton—low (about 4.2 inches)
Slowest saturated hydraulic conductivity: Pinoka—high (about 1.98 in/hr); Carbonton—moderately low (about 0.06 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Pinoka—well drained; Carbonton—somewhat poorly drained
Depth to seasonal water saturation: Pinoka—more than 6 feet; Carbonton—about 12 to 24 inches
Water table kind: Pinoka—not applicable; Carbonton—perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Pinoka—low; Carbonton—moderate
Runoff class: Pinoka—medium; Carbonton—very high
Surface fragments: None
Parent material: Pinoka—Triassic sandstone and siltstone residuum; Carbonton—Triassic siltstone residuum

Use and Management Considerations

Cropland

Suitability: Poorly suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Pinoka—JJ; Carbonton—Y
Hydric soils: No

32B—Poindexter-Wedowee complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Poindexter and Wedowee soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Poindexter and similar soils: Typically 60 percent, ranging from about 55 to 65 percent
Wedowee and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Poindexter

Surface layer:
0 to 3 inches—dark yellowish brown sandy loam

Subsurface layer:
3 to 7 inches—brownish yellow sandy loam

Subsoil:
7 to 15 inches—reddish yellow sandy clay loam; many yellowish brown mottles
15 to 28 inches—strong brown clay loam; few yellowish red and few yellowish brown mottles

Substratum:
28 to 39 inches—reddish yellow, yellowish red, and strong brown sandy clay loam; common dark yellowish brown mottles

Soft bedrock:
39 to 62 inches—yellowish brown, weakly cemented granodiorite bedrock

Wedowee

Surface layer:
0 to 3 inches—brown fine sandy loam; common very dark grayish brown mottles

Subsurface layer:
3 to 9 inches—yellowish brown fine sandy loam

Subsoil:
9 to 15 inches—brownish yellow sandy clay loam
15 to 28 inches—strong brown sandy clay; common yellowish red mottles
28 to 32 inches—reddish yellow sandy clay; common yellowish red mottles
32 to 38 inches—reddish yellow sandy clay loam; common yellow and common red mottles

Substratum:
38 to 48 inches—strong brown sandy clay loam; common yellow and common red mottles
48 to 61 inches—strong brown sandy loam; common brownish yellow and common very pale brown mottles

Minor Components

Similar components:
- Very deep, well drained Enon soils; on landforms similar to those of the Poindexter and Wedowee soils
- Moderately deep, well drained Wateree soils; on landforms similar to those of the Poindexter and Wedowee soils

Soil Properties and Qualities

Available water capacity: Poindexter—low (about 5.5 inches); Wedowee—moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Poindexter—moderately deep (20 to 40 inches); Wedowee—very deep (more than 60 inches)
Depth to root-restrictive feature: Poindexter—20 to 40 inches to paralithic bedrock; Wedowee—more than 60 inches

Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Poindexter—high; Wedowee—medium
Surface fragments: None
Parent material: Poindexter—granodiorite residuum; Wedowee—granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to grass-legume hay; moderately suited to corn and wheat; poorly suited to soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to southern red oak; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- These soils are well suited to equipment operations.

Building sites

- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- These soils are well suited to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: Poindexter—FF; Wedowee—V
Hydric soils: No

32C—Poindexter-Wedowee complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Poindexter and Wedowee soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Poindexter and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Wedowee and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Poindexter

Surface layer:
0 to 3 inches—dark yellowish brown sandy loam

Subsurface layer:
3 to 7 inches—brownish yellow sandy loam

Subsoil:
7 to 15 inches—reddish yellow sandy clay loam; many yellowish brown mottles
15 to 28 inches—strong brown clay loam; few yellowish red and few yellowish brown mottles

Substratum:
28 to 39 inches—reddish yellow, yellowish red, and strong brown sandy clay loam; common dark yellowish brown mottles

Soft bedrock:
39 to 62 inches—yellowish brown, weakly cemented granodiorite bedrock

Wedowee

Surface layer:
0 to 3 inches—brown fine sandy loam; common very dark grayish brown mottles

Subsurface layer:
3 to 9 inches—yellowish brown fine sandy loam

Subsoil:
9 to 15 inches—brownish yellow sandy clay loam
15 to 28 inches—strong brown sandy clay; common yellowish red mottles
28 to 32 inches—reddish yellow sandy clay; common yellowish red mottles
32 to 38 inches—reddish yellow sandy clay loam; common yellow and common red mottles

Substratum:
38 to 48 inches—strong brown sandy clay loam; common yellow and common red mottles
48 to 61 inches—strong brown sandy loam; common brownish yellow and common very pale brown mottles

Minor Components

Dissimilar components:
- Very deep, moderately well drained Helena soils; on slightly lower landforms

Similar components:
- Very deep, well drained Enon soils; on landforms similar to those of the Poindexter and Wedowee soils
- Moderately deep, well drained Wateree soils; on landforms similar to those of the Poindexter and Wedowee soils

Soil Properties and Qualities

Available water capacity: Poindexter—low (about 5.5 inches); Wedowee—moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Poindexter—moderately deep (20 to 40 inches); Wedowee—very deep (more than 60 inches)
Depth to root-restrictive feature: Poindexter—20 to 40 inches to paralithic bedrock; Wedowee—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Poindexter—high; Wedowee—medium
Surface fragments: None
Parent material: Poindexter—granodiorite residuum; Wedowee—granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to southern red oak; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Poindexter—FF; Wedowee—V
Hydric soils: No

32D—Poindexter-Wedowee complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Moderately steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Poindexter and Wedowee soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Poindexter and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Wedowee and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Poindexter

Surface layer:
0 to 3 inches—dark yellowish brown sandy loam

Subsurface layer:
3 to 7 inches—brownish yellow sandy loam

Subsoil:
7 to 15 inches—reddish yellow sandy clay loam; many yellowish brown mottles

15 to 28 inches—strong brown clay loam; few yellowish red and few yellowish brown mottles

Substratum:
28 to 39 inches—reddish yellow, yellowish red, and strong brown sandy clay loam; common dark yellowish brown mottles

Soft bedrock:
39 to 62 inches—yellowish brown, weakly cemented granodiorite bedrock

Wedowee

Surface layer:
0 to 3 inches—brown fine sandy loam; common very dark grayish brown mottles

Subsurface layer:
3 to 9 inches—yellowish brown fine sandy loam

Subsoil:
9 to 15 inches—brownish yellow sandy clay loam
15 to 28 inches—strong brown sandy clay; common yellowish red mottles
28 to 32 inches—reddish yellow sandy clay; common yellowish red mottles
32 to 38 inches—reddish yellow sandy clay loam; common yellow and common red mottles

Substratum:
38 to 48 inches—strong brown sandy clay loam; common yellow and common red mottles
48 to 61 inches—strong brown sandy loam; common brownish yellow and common very pale brown mottles

Minor Components

Dissimilar components:
- Very deep, moderately well drained Helena soils; on slightly lower landforms

Similar components:
- Moderately deep, well drained Wateree soils; on landforms similar to those of the Poindexter and Wedowee soils

Soil Properties and Qualities

Available water capacity: Poindexter—low (about 5.5 inches); Wedowee—moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Poindexter—moderately deep (20 to 40 inches); Wedowee—very deep (more than 60 inches)
Depth to root-restrictive feature: Poindexter—20 to 40 inches to paralithic bedrock; Wedowee—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Poindexter—high; Wedowee—medium
Surface fragments: None
Parent material: Poindexter—granodiorite residuum; Wedowee—granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to southern red oak; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Poindexter—FF; Wedowee—V
Hydric soils: No

32E—Poindexter-Wedowee complex, 25 to 60 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Steep and very steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Poindexter and Wedowee soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Poindexter and similar soils: Typically 60 percent, ranging from about 55 to 65 percent
Wedowee and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Poindexter

Surface layer:
0 to 3 inches—dark yellowish brown sandy loam

Subsurface layer:
3 to 7 inches—brownish yellow sandy loam

Subsoil:
7 to 15 inches—reddish yellow sandy clay loam; many yellowish brown mottles
15 to 28 inches—strong brown clay loam; few yellowish red and few yellowish brown mottles

Substratum:
28 to 39 inches—reddish yellow, yellowish red, and strong brown sandy clay loam; common dark yellowish brown mottles

Soft bedrock:
39 to 62 inches—yellowish brown, weakly cemented granodiorite bedrock

Wedowee

Surface layer:
0 to 3 inches—brown fine sandy loam; common very dark grayish brown mottles

Subsurface layer:
3 to 9 inches—yellowish brown fine sandy loam

Subsoil:
9 to 15 inches—brownish yellow sandy clay loam
15 to 28 inches—strong brown sandy clay; common yellowish red mottles
28 to 32 inches—reddish yellow sandy clay; common yellowish red mottles
32 to 38 inches—reddish yellow sandy clay loam; common yellow and common red mottles

Substratum:
38 to 48 inches—strong brown sandy clay loam; common yellow and common red mottles
48 to 61 inches—strong brown sandy loam; common brownish yellow and common very pale brown mottles

Minor Components

Similar components:
- Moderately deep, well drained Wateree soils; on landforms similar to those of the Poindexter and Wedowee soils

Soil Properties and Qualities

Available water capacity: Poindexter—low (about 5.5 inches); Wedowee—moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Poindexter—moderately deep (20 to 40 inches); Wedowee—very deep (more than 60 inches)
Depth to root-restrictive feature: Poindexter—20 to 40 inches to paralithic bedrock; Wedowee—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Poindexter—high; Wedowee—medium
Surface fragments: None
Parent material: Poindexter—granodiorite residuum; Wedowee—granite gneiss residuum

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to southern red oak; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable Best Management Practices (BMPs).
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6e
Virginia soil management group: Poindexter—FF; Wedowee—V
Hydric soils: No

33B—Rasalo-Halifax complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Rasalo and Halifax soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Rasalo and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Halifax and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Rasalo

Surface layer:
0 to 6 inches—yellowish brown sandy loam (brownish yellow, dry)

Subsoil:
6 to 20 inches—brownish yellow clay
20 to 30 inches—brownish yellow sandy clay loam

Substratum:
30 to 65 inches—black, olive brown, and brownish yellow sandy loam

Halifax

Surface layer:
0 to 13 inches—light olive brown sandy loam (light yellowish brown, dry)

Subsoil:
13 to 25 inches—brownish yellow clay; red masses of oxidized iron
25 to 39 inches—brownish yellow clay; red masses of oxidized iron and light gray iron depletions
39 to 58 inches—gray clay; brownish yellow and olive yellow masses of oxidized iron

Substratum:
58 to 65 inches—pale yellow, yellowish brown, and pale yellow clay loam; olive yellow masses of oxidized iron

Minor Components

Dissimilar components:
- Moderately deep, well drained Spriggs and Devotion soils; on similar landforms

Soil Properties and Qualities

Available water capacity: Moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Rasalo—moderately high (about 0.21 in/hr); Halifax—moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Rasalo—well drained; Halifax—moderately well drained
Depth to seasonal water saturation: Rasalo—more than 6 feet; Halifax—about 18 to 30 inches
Water table kind: Rasalo—not applicable; Halifax—perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Rasalo—medium; Halifax—very high
Surface fragments: None
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to grass-legume hay; moderately suited to corn, soybeans, and wheat
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to yellow-poplar and sweetgum; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: Rasalo—Y; Halifax—KK
Hydric soils: No

33C—Rasalo-Halifax complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Rasalo and Halifax soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Rasalo and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Halifax and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Rasalo

Surface layer:
0 to 6 inches—yellowish brown sandy loam (brownish yellow, dry)

Subsoil:
6 to 20 inches—brownish yellow clay
20 to 30 inches—brownish yellow sandy clay loam

Substratum:
30 to 65 inches—black, olive brown, and brownish yellow sandy loam

Halifax

Surface layer:
0 to 13 inches—light olive brown sandy loam (light yellowish brown, dry)

Subsoil:
13 to 25 inches—brownish yellow clay; red masses of oxidized iron
25 to 39 inches—brownish yellow clay; red masses of oxidized iron and light gray iron depletions
39 to 58 inches—gray clay; brownish yellow and olive yellow masses of oxidized iron

Substratum:
58 to 65 inches—pale yellow, yellowish brown, and pale yellow clay loam; olive yellow masses of oxidized iron

Minor Components

Dissimilar components:
- Very deep, moderately well drained Jackland soils; on slightly lower landforms
- Moderately deep, well drained Spriggs soils; on landforms similar to those of the Rasalo and Halifax soils

Soil Properties and Qualities

Available water capacity: Moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Rasalo—moderately high (about 0.21 in/hr); Halifax—moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Rasalo—well drained; Halifax—moderately well drained
Depth to seasonal water saturation: Rasalo—more than 6 feet; Halifax—about 18 to 30 inches
Water table kind: Rasalo—not applicable; Halifax—perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Very high
Surface fragments: None
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to yellow-poplar and sweetgum; poorly suited to loblolly pine

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Rasalo—Y; Halifax—KK
Hydric soils: No

34E—Rasalo-Spriggs complex, 15 to 45 percent slopes, very stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section

Position on the landform: Steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Rasalo and Spriggs soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Rasalo and similar soils: Typically 35 percent, ranging from about 30 to 40 percent
Spriggs and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Rasalo

Surface layer:
0 to 6 inches—yellowish brown sandy loam (brownish yellow, dry)

Subsoil:
6 to 20 inches—brownish yellow clay
20 to 30 inches—brownish yellow sandy clay loam

Substratum:
30 to 65 inches—black, olive brown, and brownish yellow sandy loam

Spriggs

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered bedrock

Minor Components

Dissimilar components:
- Shallow, well drained Siloam soils; on landforms similar to those of the Rasalo and Spriggs soils

Soil Properties and Qualities

Available water capacity: Rasalo—moderate (about 8.0 inches); Spriggs—moderate (about 6.6 inches)
Slowest saturated hydraulic conductivity: Rasalo—moderately high (about 0.21 in/hr); Spriggs—moderately high (about 0.64 in/hr)
Depth class: Rasalo—very deep (more than 60 inches); Spriggs—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Rasalo—more than 60 inches; Spriggs—20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Rasalo—high; Spriggs—moderate
Runoff class: Rasalo—very high; Spriggs—high
Surface fragments: About 0.10 to 3.00 percent rounded stones
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pastureland.

Woodland

Suitability: Moderately suited to yellow-poplar and sweetgum; poorly suited to loblolly pine

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- Because of the slope, the use of mechanical planting equipment is impractical.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7s
Virginia soil management group: Rasalo—Y; Spriggs—FF
Hydric soils: No

35A—Riverview and Tuckahoe soils, 0 to 2 percent slopes, occasionally flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Nearly level flood plains
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Riverview and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Tuckahoe and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Riverview

Surface layer:
0 to 10 inches—dark yellowish brown loam

Subsoil:
10 to 13 inches—brown loam; common yellowish brown mottles
13 to 18 inches—yellowish brown loam
18 to 30 inches—strong brown sandy clay loam
30 to 50 inches—strong brown sandy loam

Substratum:
50 to 53 inches—strong brown sandy loam
53 to 61 inches—strong brown sandy loam; grayish brown masses of reduced iron

Tuckahoe

Surface layer:
0 to 10 inches—brown loam

Subsoil:
10 to 17 inches—brown loam
17 to 30 inches—brown clay loam
30 to 43 inches—dark yellowish brown silty clay loam
43 to 61 inches—brown loam

Substratum:
61 to 68 inches—brown silt loam; black manganese coatings

Minor Components

Dissimilar components:
- Very deep, somewhat poorly drained Chewacla soils; on flood plains

Similar components:
- Very deep, moderately well drained Toccoa soils; on flood plains

Soil Properties and Qualities

Available water capacity: Riverview—high (about 10.5 inches); Tuckahoe—high (about 10.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)

Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: Riverview—about 36 to 60 inches; Tuckahoe—more than 6 feet
Water table kind: Riverview—apparent; Tuckahoe—not applicable
Flooding hazard: Occasional
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Negligible
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, and grass-legume hay
- Flooding may damage crops.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.

Woodland

Suitability: Well suited to loblolly pine, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable Best Management Practices (BMPs).
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 1
Virginia soil management group: Riverview—G; Tuckahoe—A
Hydric soils: No

36A—Sindion silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Nearly level, broad flood plains
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Sindion and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 14 inches—dark brown loam (dark yellowish brown, dry)

Subsoil:
14 to 30 inches—dark yellowish brown loam; dark grayish brown iron depletions
30 to 46 inches—brown loam; dark grayish brown iron depletions and dark yellowish brown masses of oxidized iron
46 to 61 inches—dark yellowish brown, dark grayish brown, and brown loam

Minor Components

Similar components:
- Very deep, well drained Speedwell soils; on flood plains

Soil Properties and Qualities

Available water capacity: High (about 11.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 36 inches
Water table kind: Apparent
Flooding hazard: Occasional
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, and grass-legume hay
- Flooding may damage crops.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.

Woodland

Suitability: Well suited to northern red oak; moderately suited to yellow-poplar

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable Best Management Practices (BMPs).
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2w
Virginia soil management group: A
Hydric soil: No

37A—Speedwell loam, 0 to 2 percent slopes, occasionally flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Nearly level, broad flood plains
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Speedwell and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Typical Profile

Surface layer:
0 to 13 inches—very dark grayish brown loam (brown, dry)

Subsoil:
13 to 37 inches—brown loam
37 to 65 inches—dark yellowish brown loam

Minor Components

Similar components:
- Very deep, moderately well drained Sindion soils; on flood plains

Soil Properties and Qualities

Available water capacity: High (about 11.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: Occasional
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Surface fragments: None
Parent material: Recent alluvium of limestone, sandstone, and shale

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, and grass-legume hay
- Flooding may damage crops.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.

Woodland

Suitability: Well suited to northern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable Best Management Practices (BMPs).
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.

Local roads and streets

- Flooding may damage local roads and streets.
- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 1
Virginia soil management group: A
Hydric soil: No

38B—Spriggs-Toast complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Spriggs and Toast soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Spriggs and similar soils: Typically 60 percent, ranging from about 55 to 65 percent
Toast and similar soils: Typically 25 percent, ranging from about 20 to 30 percent

Typical Profile

Spriggs

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered bedrock

Toast

Surface layer:
0 to 6 inches—yellowish brown sandy loam (light yellowish brown, dry)

Subsurface layer:
6 to 12 inches—light yellowish brown sandy loam

Subsoil:
12 to 29 inches—strong brown clay
29 to 38 inches—strong brown sandy clay loam

Substratum:
38 to 62 inches—brownish yellow sandy loam

Minor Components

Similar components:
- Moderately deep, well drained Devotion soils; on landforms similar to those of the Spriggs and Toast soils
- Very deep, well drained Rasalo soils; on landforms similar to those of the Spriggs and Toast soils

Soil Properties and Qualities

Available water capacity: Spriggs—moderate (about 6.5 inches); Toast—moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Spriggs—moderately high (about 0.64 in/hr); Toast—moderately high (about 0.57 in/hr)

Depth class: Spriggs—moderately deep (20 to 40 inches); Toast—very deep (more than 60 inches)
Depth to root-restrictive feature: Spriggs—20 to 40 inches to paralithic bedrock; Toast—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Spriggs—moderate; Toast—low
Runoff class: Low
Surface fragments: None
Parent material: Spriggs—hornblende gneiss residuum; Toast—granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to grass-legume hay; moderately suited to corn and wheat; poorly suited to soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Bedrock may interfere with the construction of haul roads and log landings.
- These soils are well suited to equipment operations.

Building sites

- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- These soils are well suited to local roads and streets

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: Spriggs—FF; Toast—V
Hydric soils: No

38C—Spriggs-Toast complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Spriggs and Toast soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Spriggs and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Toast and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Spriggs

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered bedrock

Toast

Surface layer:
0 to 6 inches—yellowish brown sandy loam (light yellowish brown, dry)

Subsurface layer:
6 to 12 inches—light yellowish brown sandy loam

Subsoil:
12 to 29 inches—strong brown clay
29 to 38 inches—strong brown sandy clay loam

Substratum:
38 to 62 inches—brownish yellow sandy loam

Minor Components

Dissimilar components:
- Very deep, moderately well drained Halifax soils; on slightly lower landforms

Similar components:
- Moderately deep, well drained Devotion soils; on landforms similar to those of the Spriggs and Toast soils

- Very deep, well drained Rasalo soils; on landforms similar to those of the Spriggs and Toast soils

Soil Properties and Qualities

Available water capacity: Spriggs—moderate (about 6.5 inches); Toast—moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Spriggs—moderately high (about 0.64 in/hr); Toast—moderately high (about 0.57 in/hr)
Depth class: Spriggs—moderately deep (20 to 40 inches); Toast—very deep (more than 60 inches)
Depth to root-restrictive feature: Spriggs—20 to 40 inches to paralithic bedrock; Toast—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Spriggs—moderate; Toast—low
Runoff class: Medium
Surface fragments: None
Parent material: Spriggs—hornblende gneiss residuum; Toast—granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Spriggs—FF; Toast—V
Hydric soils: No

38D—Spriggs-Toast complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Moderately steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Spriggs and Toast soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Spriggs and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Toast and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Spriggs

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered bedrock

Toast

Surface layer:
0 to 6 inches—yellowish brown sandy loam (light yellowish brown, dry)

Subsurface layer:
6 to 12 inches—light yellowish brown sandy loam

Subsoil:
12 to 29 inches—strong brown clay
29 to 38 inches—strong brown sandy clay loam

Substratum:
38 to 62 inches—brownish yellow sandy loam

Minor Components

Dissimilar components:
- Very deep, moderately well drained Halifax soils; on slightly lower landforms

Similar components:
- Moderately deep, well drained Devotion soils; on landforms similar to those of the Spriggs and Toast soils

Soil Properties and Qualities

Available water capacity: Spriggs—moderate (about 6.5 inches); Toast—moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Spriggs—moderately high (about 0.64 in/hr); Toast—moderately high (about 0.57 in/hr)
Depth class: Spriggs—moderately deep (20 to 40 inches); Toast—very deep (more than 60 inches)
Depth to root-restrictive feature: Spriggs—20 to 40 inches to paralithic bedrock; Toast—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Spriggs—moderate; Toast—low
Runoff class: Spriggs—high; Toast—medium
Surface fragments: None
Parent material: Spriggs—hornblende gneiss residuum; Toast—granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).

- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Spriggs—FF; Toast—V
Hydric soils: No

38E—Spriggs-Toast complex, 25 to 60 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Steep and very steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Note: These Spriggs and Toast soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping.

Spriggs and similar soils: Typically 60 percent, ranging from about 55 to 65 percent
Toast and similar soils: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Spriggs

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered bedrock

Toast

Surface layer:
0 to 6 inches—yellowish brown sandy loam (light yellowish brown, dry)

Subsurface layer:
6 to 12 inches—light yellowish brown sandy loam

Subsoil:
12 to 29 inches—strong brown clay
29 to 38 inches—strong brown sandy clay loam

Substratum:
38 to 62 inches—brownish yellow sandy loam

Minor Components

Similar components:
- Moderately deep, well drained Devotion soils; on landforms similar to those of the Spriggs and Toast soils

Soil Properties and Qualities

Available water capacity: Spriggs—moderate (about 6.5 inches); Toast—moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Spriggs—moderately high (about 0.64 in/hr); Toast—moderately high (about 0.57 in/hr)
Depth class: Spriggs—moderately deep (20 to 40 inches); Toast—very deep (more than 60 inches)
Depth to root-restrictive feature: Spriggs—20 to 40 inches to paralithic bedrock; Toast—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Spriggs—moderate; Toast—low
Runoff class: High
Surface fragments: None
Parent material: Spriggs—hornblende gneiss residuum; Toast—granite gneiss residuum

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Poorly suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable Best Management Practices (BMPs).
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6e
Virginia soil management group: Spriggs—FF; Toast—V
Hydric soils: No

39B—State fine sandy loam, 2 to 7 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section

Position on the landform: Gently sloping stream terrace treads
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

State and similar soils: Typically 85 percent, ranging from about 75 to 90 percent

Typical Profile

Surface layer:
0 to 8 inches—dark yellowish brown fine sandy loam

Subsoil:
8 to 14 inches—strong brown loam
14 to 27 inches—strong brown clay loam
27 to 40 inches—strong brown clay loam; common yellowish brown mottles
40 to 48 inches—light yellowish brown and brownish yellow loam

Substratum:
48 to 65 inches—brownish yellow and light yellowish brown fine sandy loam

Minor Components

Dissimilar components:
- Very deep, moderately well drained Dogue soils; on slightly lower landforms

Similar components:
- Very deep, well drained Riverview soils; on landforms similar to those of the State soils

Soil Properties and Qualities

Available water capacity: Moderate (about 8.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: About 48 to 79 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, and grass-legume hay; moderately suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine, southern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: B
Hydric soil: No

40A—Toccoa fine sandy loam, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Nearly level flood plains
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Toccoa and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Typical Profile

Surface layer:
0 to 12 inches—dark yellowish brown fine sandy loam (yellowish brown, dry)

Substratum:
12 to 41 inches—dark yellowish brown fine sandy loam
41 to 47 inches—dark yellowish brown loam; strong brown masses of oxidized iron and very pale brown iron depletions
47 to 55 inches—dark yellowish brown fine sandy loam; very pale brown iron depletions and strong brown masses of oxidized iron
55 to 62 inches—dark yellowish brown loam; very pale brown iron depletions and yellowish brown masses of oxidized iron

Minor Components

Dissimilar components:
- Very deep, well drained Riverview soils; on landforms similar to those of the Toccoa soil

Soil Properties and Qualities

Available water capacity: Moderate (about 6.6 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 30 to 60 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Negligible
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- Frequent flooding restricts the use of winter grain crops.
- Flooding may damage crops.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.

Woodland

Suitability: Well suited to loblolly pine, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable Best Management Practices (BMPs).
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3w
Virginia soil management group: II
Hydric soil: No

41B—Trenholm sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Gently sloping summits and shoulders
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Trenholm and similar soils: Typically 80 percent, ranging from about 70 to 85 percent

Typical Profile

Surface layer:
0 to 2 inches—very dark gray sandy loam

Subsurface layer:
2 to 9 inches—yellowish brown sandy loam; black iron-manganese concretions

Subsoil:
9 to 12 inches—yellowish brown, light yellowish brown, and pale brown sandy loam; black iron-manganese concretions
12 to 20 inches—yellowish brown clay; yellowish red masses of oxidized iron and light brownish gray iron depletions
20 to 30 inches—light olive brown clay; pale brown and light brownish gray iron depletions
30 to 36 inches—yellowish brown clay loam; reddish yellow masses of oxidized iron and pale yellow iron depletions

Substratum:
36 to 62 inches—yellowish brown sandy loam

Minor Components

Similar components:
- Very deep, well drained Enon and Mecklenburg soils; on slightly higher landforms

Soil Properties and Qualities

Available water capacity: Moderate (about 7.5 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 12 to 36 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Very high

Surface fragments: None
Parent material: Mafic rock residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn, soybeans, and wheat
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to southern red oak and northern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.
- This soil is well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 2e

Virginia soil management group: KK
Hydric soil: No

42C—Wateree sandy loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Strongly sloping side slopes and nose slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Wateree and similar soils: Typically 85 percent, ranging from about 75 to 90 percent

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown fine sandy loam

Subsurface layer:
2 to 6 inches—brown fine sandy loam

Subsoil:
6 to 19 inches—yellowish brown sandy loam

Substratum:
19 to 39 inches—strong brown sandy loam; common very dark grayish brown and common brown mottles

Soft bedrock:
39 to 59 inches—strong brown, very dark grayish brown, and yellow granite bedrock

Hard bedrock:
59 to 69 inches—granite bedrock

Minor Components

Dissimilar components:
- Very deep, well drained Enon and Wedowee soils; on landforms similar to those of the Wateree soil

Soil Properties and Qualities

Available water capacity: Low (about 3.5 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite and granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: FF
Hydric soil: No

42D—Wateree sandy loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Moderately steep side slopes
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Wateree and similar soils: Typically 80 percent, ranging from about 70 to 85 percent

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown fine sandy loam

Subsurface layer:
2 to 6 inches—brown fine sandy loam

Subsoil:
6 to 19 inches—yellowish brown sandy loam

Substratum:
19 to 39 inches—strong brown sandy loam; common very dark grayish brown and common brown mottles

Soft bedrock:
39 to 59 inches—strong brown, very dark grayish brown, and yellow granite bedrock

Hard bedrock:
59 to 69 inches—granite bedrock

Minor Components

Dissimilar components:
- Very deep, well drained Enon and Wedowee soils; on landforms similar to those of the Wateree soil

Soil Properties and Qualities

Available water capacity: Low (about 3.5 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite and granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and grass-legume hay; poorly suited to corn and soybeans

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: FF
Hydric soil: No

43A—Wehadkee sandy loam, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Nearly level flood plains
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Wehadkee and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Typical Profile

Organic layer:
0 to 1 inch—very dark grayish brown moderately decomposed plant material

Surface layer:
1 to 5 inches—light brownish gray sandy loam
5 to 7 inches—gray loam; strong brown masses of oxidized iron

Subsoil:
7 to 12 inches—gray silt loam
12 to 20 inches—dark greenish gray clay loam

Substratum:
20 to 30 inches—dark greenish gray sandy loam
30 to 52 inches—dark gray clay loam
52 to 61 inches—greenish gray sandy clay loam; olive brown masses of oxidized iron

Minor Components

Dissimilar components:
- Very deep, well drained Riverview soils; on flood plains

Soil Properties and Qualities

Available water capacity: High (about 10.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal water saturation: About 0 to 12 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Negligible
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Well suited to loblolly pine and yellow-poplar; moderately suited to sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable Best Management Practices (BMPs).
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6w
Virginia soil management group: MM
Hydric soil: Yes

44B—Wintergreen loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, mesic section
Position on the landform: Gently sloping high stream terrace treads
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Wintergreen and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—dark yellowish brown sandy loam

Subsoil:
6 to 70 inches—dark red clay; black manganese masses

Minor Components

Similar components:
- Very deep, well drained Bentley soils; on landforms similar to those of the Wintergreen soil

Soil Properties and Qualities

Available water capacity: High (about 9.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Ancient alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, and grass-legume hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Poorly suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to northern red oak and eastern white pine; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- This soil is well suited to septic tank absorption fields.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: O
Hydric soil: No

45B—Worsham loam, 0 to 4 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Southern Piedmont, thermic section
Position on the landform: Nearly level to gently sloping drainageways
Shape and size of areas: Irregular; 5 to 300 acres

Map Unit Composition

Worsham and similar soils: Typically 75 percent, ranging from about 70 to 80 percent

Typical Profile

Surface layer:
0 to 3 inches—dark grayish brown fine sandy loam

Subsurface layer:
3 to 7 inches—grayish brown loam; yellowish brown masses of oxidized iron

Subsoil:
7 to 14 inches—grayish brown sandy clay loam; yellowish red masses of oxidized iron
14 to 34 inches—gray sandy clay; gray iron depletions and yellowish brown and yellowish red masses of oxidized iron
34 to 47 inches—gray sandy clay; strong brown and yellowish brown masses of oxidized iron
47 to 57 inches—light gray sandy clay loam; yellowish brown masses of oxidized iron

Substratum:
57 to 61 inches—light gray and gray sandy loam; yellowish brown masses of oxidized iron

Minor Components

Dissimilar components:
- Very deep, moderately well drained Helena soils; on higher landforms

Similar components:
- Very deep, poorly drained Wehadkee soils; on flood plains

Soil Properties and Qualities

Available water capacity: Moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal water saturation: About 0 to 12 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Negligible
Surface fragments: None
Parent material: Alluvium

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, wheat, and grass-legume hay; poorly suited to soybeans
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Well suited
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Well suited to loblolly pine and southern red oak; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable Best Management Practices (BMPs).
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4w
Virginia soil management group: HH
Hydric soil: Yes

W—Water

This map unit consists of streams, lakes, and reservoirs. It is not assigned any interpretive groups.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, and the system of land capability classification used by the Natural Resources Conservation Service is explained.

Most of the soils in Cumberland County are highly leached and consequently are strongly acid and generally low in essential plant nutrients. Crops and pasture plants on most of the soils respond well to applications of lime and fertilizer. The amount of lime and fertilizer to be applied to any individual area depends on past cropping history, on the type of soil, on the crops to be grown, and on the yield desired.

Excessive tillage tends to destroy soil structure. This in turn generally lowers the water infiltration rate and results in less favorable tilth of the seedbed. Essential tillage should be confined to the period of optimum moisture content of each soil in order to help prevent formation of clods or conditions leading to crusting. Cropping systems that utilize close-growing crops or grass and legume crops in rotation with row crops help to prevent deterioration of soil structure through excessive tillage.

Soil compaction and deterioration of soil structure also result if wet soils are trampled by livestock. Soil compaction results in increased surface runoff and a less favorable root zone for pasture plants.

Soil erosion by water is the major hazard on about 85 percent of the cropland in the survey area. Soil erosion reduces the soil productivity and contributes to pond and stream sedimentation. Soils with capability subclasses 2e, 3e, 4e, 5e, 6e, and 7e are subject to water erosion. The control of erosion on these soils is a major management concern.

Erosion reduces the thickness of the topsoil, which contains most of the organic matter, available water, and nutrients. The potential for erosion on soils having clayey subsoils, such as Cecil, Clifford, and Nathalie soils, is high and requires conservation practices that minimize soil erosion and stream sedimentation. If the original, friable surface layer has been eroded away, preparing a good seedbed, tillage, and growing a good stand of some crops are difficult in the remaining clayey spots. Eroded areas for some of the Cecil and Clifford soils were large enough to map as separate map units from the Cecil and Clifford sandy loam map units.

Most of the cultivated soils in the county are low in naturally occurring organic matter content and generally have weak structure. Organic matter is an important source of nitrogen for crops. It also improves soil structure, the rate of water infiltration, the available water capacity, and soil tilth. High intensity rains sometimes cause surface crusting. This crusted surface is hard when dry and somewhat impervious to water, especially in spots where plowing has incorporated some of the clay subsoil into the surface layer. When hard and crusted, the surface increases surface runoff. Regular additions of livestock manure and other organic material help to improve soil structure and to reduce surface crusting. Leaving crop residues on the surface or using green manure crops also contribute to organic matter content.

In many areas, soil erosion on farmland causes stream pollution by sediments, nutrients, and pesticides entering the water channels. Controlling erosion minimizes such pollution and improves the quality of water for municipal use and for fish and wildlife.

Erosion-control practices cover and protect the soil surface, minimize runoff, and

increase water infiltration. A cropping system that keeps plant cover on the soil for extended periods helps to control erosion and to maintain soil productivity. Including legumes and grass forage crops in the cropping system helps to control erosion on sloping land, provides nitrogen for plants, and improves soil tilth for the next crop in rotation.

The installation of structural practices such as terraces, diversions, and/or grassed waterways helps to minimize erosion by controlling runoff. Implementing cropping systems that rotate grass or close-growing crops with row crops also minimizes cropland erosion.

On the soils that have short, irregular slopes, a cropping system that provides abundant plant cover helps to control erosion. Leaving crop residue on the surface, either by minimizing tillage or by stubble mulching, helps to increase water infiltration, to minimize runoff, and to control erosion during seeding and early crop growth.

On soils that have smooth, uniform slopes, contour tillage is effective in reducing surface runoff and significantly increases the amount of water that soaks into the soil. Soil moisture is commonly a critical factor at certain times during the growing season. Contour tillage is also very effective in controlling erosion.

The major limitations of most of the soils used for pasture and hay are high acidity and low natural fertility. Applications of lime offset acidity, whereas fertilizer, especially nitrogen, is needed to improve soil fertility for maximum forage production.

Major pasture management problems are establishing and maintaining a mixture of grasses and legumes and preventing overgrazing. Overgrazing reduces the stand of desirable grasses and legumes and allows weeds to increase in abundance. In addition, overgrazing reduces the surface cover and increases erosion. Major pasture management concerns are proper stocking rates that maintain desirable grasses and legumes, rotational grazing, deferred grazing, weed control, and applications of lime and fertilizer for maximum forage production.

The choice of an appropriate cropping system or resource management system is a major decision for farmers in the county. All of the soils in the county have physical and chemical characteristics that affect their potential for use in farming.

A cropping system should be used that (1) does not exceed a tolerable soil erosion loss for the soils involved and (2) meets the needs of the farmer and is consistent with the capability of the soils.

Cropping systems range from continuous row crops or small grains to various types of rotations, which may include grasses and/or legumes. Conservation tillage, contour stripcropping, and cover and green manure crops are other farming methods that reduce the hazard of erosion.

According to the 2002 Census of Agriculture, Cumberland County has about 13,220 acres of harvested cropland and about 12,000 acres of that total is in hay production *(11)*. A small acreage is used for growing specialty crops, such as cantaloupes, pumpkins, strawberries, and vegetable crops. The major row crops cited for Cumberland County are flue-cured tobacco, soybeans, and corn; winter wheat is the most widely grown small grain.

The climate and many of the soils are suited to the crops commonly grown in the survey area. Some of the soils, especially those in poorly drained areas, are not suited to crops. Areas of steep slopes are not well suited to crop production due to the potential of soil erosion.

The very deep, well drained, nearly level and gently sloping soils, such as Appling, Clifford, and Nathalie soils on upland landscapes and State and Wintergreen soils on stream terraces, are some of the most productive soils for growing cultivated crops, such as soybeans and tobacco, and for pasture and hay. These soils are also well suited to vegetables, small fruits, and nursery plants. Bentley soils are moderately well drained, have a thick sandy surface layer, and are well suited to growing soybeans, wheat, tobacco, and hay.

Most areas of the less sloping soils in the survey area are well suited to pasture and hay. The dominant plants in the well managed pastures are tall fescue and orchardgrass. The main legumes grown with the grasses in some pastures are white clover and ladino clover.

The dominant hay crops are orchardgrass, alfalfa, tall fescue, red clover, and lespedeza. Orchardgrass is the major grass hay crop because it makes better quality hay than tall fescue.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Information on erosion-control practices for each kind of soil can be obtained at the local office of the Natural Resources Conservation Service. Information on management practices for cropland, pastureland, and hayland can be obtained at the local office of the Virginia Cooperative Extension Service.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. The yields are based on the Virginia Agronomic Land Evaluation System *(20)*. Available yield data from nearby counties and results of field trials and demonstrations also are considered. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification and the Virginia Soil Management Group of map units in the survey area also is shown in the table.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

Realistic yield goals can be maintained over a long-term basis through proper nutrient management and other soil amendments such as lime. Applications of nitrogen and phosphorus from organic or inorganic forms should be in keeping with approved nutrient management practices and regulations.

Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in

grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit *(17)*. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, forestland, wildlife habitat, or recreation.

The capability classification of the soils in this survey area is given in the section “Detailed Soil Map Units” and in table 5.

Virginia Soil Management Groups

The Virginia Agronomic Land Use Evaluation System (VALUES) is a system that ranks soils for management and productivity *(20)*. VALUES places each soil series in Virginia into one of 43 management groups. The format of the management groups, A through QQ, include the following soil characteristics—regional occurrence; parent material; landscape position or influence; solum thickness; dominant profile features, such as texture; available water capacity for plants; and internal soil drainage. Yields that are both economically and environmentally feasible were assigned to each management group, based on yields of field trial crop data and research. The following paragraphs describe the soil management groups in Cumberland County.

Group A. The soils of this group formed from alluvium on gently sloping

landscapes of flood plains or streams terraces. These soils are deep and medium textured throughout. They have a high available water capacity and are well drained.

Group B. The soils of this group formed from alluvium and are associated with stream terraces. These soils are deep and loamy textured. They have a high available water capacity and are well drained or moderately well drained.

Group G. The soils of this group formed in locally transported, medium-textured sediments of either colluvial or alluvial origin that overlay a wide range of residual materials. These soils are in landscape positions ranging from footslopes and toeslopes to the heads of drainageways, depressions, and narrow upland drainageways. They are deep and have silty to loamy upper subsoils underlain with clayey to stony materials. They have a moderately high available water capacity and are moderately well drained or somewhat poorly drained.

Group I. The soils of this group formed from alluvium along flood plains in the Piedmont region. As a result, these soils are somewhat prone to the hazard of flooding. They are deep and have predominantly clay loam subsurface horizons. They have a moderately high available water capacity and are somewhat poorly drained.

Group K. The soils of this group formed from mixed marine and fluvial sediments on landscapes that range from stream terraces to broad, nearly level interfluves in uplands. These soils are deep and have loamy surface layers and clay loam to clayey subsurface layers. They have a moderate available water capacity and are somewhat poorly drained.

Group O. The soils of this group formed from transported materials from old alluvium on dissected uplands. These soils range from deep to shallow and have very dark red clayey subsurface horizons. Some may have significant coarse fragments. The soils have a moderate available water capacity and are well drained.

Group R. The soils of this group formed from marine sediments and are on the gently sloping uplands. These soils are deep and have sandy loam surface layers and reddish yellow clayey to clay loam subsurface layers with some mottles in the lower part. They have a moderate available water capacity and are well drained or moderately well drained.

Group V. The soils of this group formed from saprolites derived from a variety of parent materials ranging from slates to granites, gneisses, schists, and more basic granitic rocks. These soils occur on upland landscapes in the Piedmont region. They are moderately deep and have clayey subsurface horizons. They have a moderate available water capacity and are well drained.

Group X. The soils of this group are derived from a variety of residual materials including slates, granites, gneisses, and schists and are located on upland landscapes in the Piedmont region. These soils are moderately deep, have clayey subsurface horizons, and, in some areas, have coarse fragments or gravel. They have a moderate available water capacity and are moderately well drained or well drained.

Group Y. The soils of this group formed from the residuum of weathered limestones, shales, or other carbonate-influenced rocks in upland landscapes in the Piedmont region. These soils range from shallow to moderately deep and have clayey subsurface horizons and, in some areas, coarse fragments. They have a moderate or low available water capacity where they are shallow to bedrock. They are mostly well drained.

Group FF. The soils of this group formed in residual parent materials ranging from sandstone, shales, and slates to loamy granitic saprolites. These soils are on steeply dissected uplands and are moderately shallow. They mostly have loamy-skeletal subsurface horizons, which may contain 80 percent or more coarse fragments. As a result, the available water capacity is very low or low. The soils are moderately well drained or well drained.

Group HH. The soils of this group formed from loamy sediments in flood-plain positions. These soils are moderately deep and have fine-loamy or clayey subsurface

textures. They have a moderate available water capacity and are somewhat poorly drained or moderately well drained.

Group II. The soils of this group formed from sandy parent materials within the Coastal Plain region or from local alluvium or colluvium of sandy origin. These soils are sandy throughout and have little horizonation. They have a low or very low available water capacity and are well drained or moderately well drained.

Group JJ. The soils of this group formed from a wide variety of residual parent materials, ranging from sandstones and shales to Triassic materials and granite or schist saprolites. These soils mostly occur in the Piedmont region. They are shallow, are predominantly loamy-skeletal throughout, and range from 30 to 70 percent coarse fragments. They have a very low available water capacity and are well drained.

Group KK. The soils of this group formed from a variety of residual materials, including Triassic sediments, residuum from basic rocks, and other clayey sediments, and are predominantly in the Piedmont region. These soils are moderately deep and have clayey textured subsurface horizons, which commonly have large amounts of high shrink-swell clays. They have a moderate available water capacity and are moderately well drained or somewhat poorly drained.

Group MM. The soils of this group formed from loamy sediments on flood plains. These soils flood frequently. They have a moderate or high available water capacity and are poorly drained.

The management groups for the map units in the survey area are given in the section “Detailed Soil Map Units” and in table 5.

Prime Farmland

Table 6 lists the map units in the survey area that are considered prime farmland. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation’s food supply.

Prime farmland is of major importance in meeting the Nation’s short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation’s prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 71,000 acres in the survey area, or nearly 37 percent of the total land acreage, meets the soil requirements for prime farmland. Areas of this land are

scattered throughout the county. The crops grown on this land, mainly corn, tobacco, soybeans, and wheat, account for an estimated two-thirds of the county's total agricultural income each year.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

For some soils identified in table 6 as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

Hydric Soils

This section lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site *(6, 8)*.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology *(3, 8, 9, 10)*. Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part *(4)*. These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established *(5)*. These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" *(14)* and "Keys to Soil Taxonomy" *(16)* and in the "Soil Survey Manual" *(18)*.

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" *(6)*.

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The following map units meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This information can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site *(6, 8)*.

13B Delila fine sandy loam, 0 to 4 percent slopes
43A Wehadkee sandy loam, 0 to 2 percent slopes, frequently flooded
45B Worsham loam, 0 to 4 percent slopes

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

The following map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

2C Appling-Helena complex, 7 to 15 percent slopes
8A Chewalca and Monocan soils, 0 to 2 percent slopes, frequently flooded
20B Halifax sandy loam, 2 to 7 percent slopes
20C Halifax sandy loam, 7 to 15 percent slopes
21B Helena sandy loam, 2 to 7 percent slopes
21C Helena sandy loam, 7 to 15 percent slopes
27C Natalie-Halifax complex, 7 to 15 percent slopes

Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Table 7, parts I, II, and III, show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of this table, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the table are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.

Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a

water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, permeability, depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Permeability and reaction affect performance. Permanently frozen soils are unsuitable for waste treatment.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding,

available water capacity, permeability, depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Forestland Productivity and Management

The tables described in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forestland management.

About 165,600 acres, or about 70 percent of the survey area, is woodland. This acreage includes about 16,000 acres in the Bear Creek Lake State Park and an additional 16,000 acres in the Cumberland State Forest. The remainder of the woodland in Cumberland County is privately owned.

On upland sites the most common trees are white oak, hickory, maple, yellow-poplar, loblolly pine, and Virginia pine. On stream bottomlands, the main tree species are maple, sweetgum, yellow-poplar, and sycamore. Most of the stands are composed of hardwoods or mixed hardwoods and pine. Scattered tracts of land throughout the county have been planted or replanted with loblolly pine.

The forest products industry is an important component of the local economy. The Virginia Department of Forestry reports that more than 250 persons are employed in industries relying on forest products.

Forestland Productivity

In table 8, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual” *(12)*, which is available at the local office of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forestland Management

In table 9, parts I through V, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately

favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for fire damage and seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual" *(12)*, which is available at the local office of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some

erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Recreational Development

In Cumberland County, the James and Appomattox Rivers provide many recreational activities, including boating, fishing, swimming, and waterskiing.

Camping facilities are available at Bear Creek State Park in central Cumberland County just north of U.S. Highway 60. The Willis River Hiking Trail extends for 16 miles through the Piedmont hills of the Cumberland State Forest. Most of its route is in mature hardwood forest. At points, the trail overlooks Winston Lake and in some places follows the banks of the scenic Willis River. Two swinging footbridges that cross the Willis River are a highlight, leading to perfect picnicking spots in the forests. The Cumberland State Forest, in addition to trails, has a sporting clays range and an archery range. The County Department of Parks and Recreation maintains several facilities for public recreation, such as softball, volleyball, basketball, golf, and tennis.

In table 10, parts I and II, the soils of the survey area are rated according to

limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the table are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in this table can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can

withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface,

soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Table 11, parts I and II, show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock

or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Table 12, parts I and II, show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation.

Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or

directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Table 13, parts I and II, give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 13, part I, only the likelihood of finding material in

suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 13, part II, the rating class terms are *good, fair,* and *poor*. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, and topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its

organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 14 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Soil Properties

Table 15 gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system *(2)* and the system adopted by the American Association of State Highway and Transportation Officials *(1)*.

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group

index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

Physical Soil Properties

Table 16 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^{1}/_{3}$- or $^{1}/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil

properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in micrometers per second, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting

their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook” *(13)*, which is available at the local office of the Natural Resources Conservation Service or on the Internet.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Soil Properties

Table 17 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Water Features

Table 18 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential,

soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The table indicates, by month, depth to the top *(upper limit)* and base *(lower limit)* of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 19 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent

collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories *(14, 16)*. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 20 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, active, thermic Typic Hapludalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each

series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” *(18)* and in the “Field Book for Describing and Sampling Soils” *(15)*. Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” *(14)* and in “Keys to Soil Taxonomy” *(16)*. Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Appling Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Granite and gneiss residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 15 percent

Associated Soils

- Cecil soils, which are well drained and have redder subsoils than the Appling soils
- Mattaponi soils, which are well drained and have slowly permeable subsoils

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Appling sandy loam, 2 to 7 percent slopes; 1.03 miles northeast along Highway VA-638 from its junction with Highway VA-45, about 300 feet northwest of Highway VA-638, in cropland; Cumberland County, Virginia; lat. 37 degrees 22 minutes 42.56 seconds N. and long. 78 degrees 21 minutes 19 seconds W.

Ap—0 to 10 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and very fine roots throughout; slightly acid; abrupt smooth boundary.

Bt1—10 to 16 inches; yellowish brown (10YR 5/6) clay; weak medium subangular blocky structure; friable, slightly sticky, moderately plastic; many fine roots; common distinct continuous clay films on all faces of peds; moderately acid; clear wavy boundary.

Bt2—16 to 26 inches; yellowish brown (10YR 5/8) clay; common fine distinct strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; friable, slightly sticky, moderately plastic; common fine roots; common distinct continuous clay films on all faces of peds; moderately acid; clear wavy boundary.

Bt3—26 to 57 inches; yellowish brown (10YR 5/8) clay; common fine prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; friable, slightly sticky, moderately plastic; common fine roots; common distinct continuous clay films on all faces of peds; very strongly acid; clear wavy boundary.

BC—57 to 65 inches; brownish yellow (10YR 6/6) clay loam; common medium distinct red (2.5YR 4/8 and 10R 4/6) and yellowish red (5YR 5/6) mottles; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few faint patchy clay films on all faces of peds; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches or more
Depth to hard bedrock: More than 72 inches

Rock fragments: 0 to 10 percent gravel in the A, E, B, and BC horizons
Mica content: Few or common in the A, E, and B horizons; few to many in the BC and C horizons
Soil reaction: Typically very strongly acid or strongly acid; moderately acid or slightly acid in limed areas

A or Ap horizon:
Color—hue of 5YR to 2.5Y and value and chroma of 3 to 6
Texture—sandy loam or fine sandy loam

E horizon (if it occurs):
Color—hue of 5YR to 2.5Y and value and chroma of 4 to 6
Texture—sandy loam or fine sandy loam

BA or BE horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 5 or 6, and chroma of 3 to 8
Texture—sandy loam or sandy clay loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—clay loam, sandy clay, or clay
Non-redoximorphic mottles—shades of red, brown, or yellow

BC horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8
Texture—sandy clay loam, clay loam, or sandy clay
Non-redoximorphic mottles—shades of red, brown, or yellow

C horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8
Texture—saprolite that is typically sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Banister Series

Physiographic province: Southern Piedmont, mesic
Landscape: Stream terrace valleys
Parent material: Alluvium
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 7 percent

Associated Soils

- Codorus soils, which are moderately well drained and have less clay in the subsoil than the Banister soils

Taxonomic Classification

Fine, mixed, active, mesic Aquic Hapludalfs

Typical Pedon

Banister fine sandy loam, 2 to 7 percent slopes, rarely flooded; 1.4 miles northwest of the junction of Highways US-58 and VA-694, about 0.9 mile off Highway VA-694 along a farm road towards the Dan River, in a cultivated field; Halifax County, Virginia; lat. 36 degrees 36 minutes 10.30 seconds N. and long. 79 degrees 9 minutes 8.10 seconds W.

Ap—0 to 8 inches; olive brown (2.5Y 4/4) fine sandy loam; moderate fine granular structure; very friable, slightly sticky, nonplastic; many fine roots; 3 percent well rounded quartz gravel; strongly acid; clear smooth boundary.

BA—8 to 14 inches; olive brown (2.5Y 4/4) loam; weak fine subangular blocky structure; very friable, slightly sticky, nonplastic; many fine and medium roots; 3 percent rounded quartz gravel; strongly acid; clear smooth boundary.

Bt1—14 to 18 inches; yellowish brown (10YR 5/6) clay loam; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; many fine roots; few distinct continuous clay films on all faces of peds; few fine mica flakes; strongly acid; gradual wavy boundary.

Bt2—18 to 38 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; very firm, very sticky, moderately plastic; many fine roots; few distinct continuous clay films on all faces of peds; many medium prominent gray (10YR 6/1) iron depletions with diffuse boundaries and many medium distinct strong brown (7.5YR 5/8) masses of oxidized iron with diffuse boundaries; few fine mica flakes; strongly acid; gradual wavy boundary.

Bt3—38 to 50 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; very firm, very sticky, moderately plastic; many fine roots; common distinct continuous clay films on all faces of peds; many medium prominent gray (10YR 6/1) iron depletions with diffuse boundaries and many medium distinct strong brown (7.5YR 5/8) masses of oxidized iron with diffuse boundaries; few fine mica flakes; strongly acid; gradual wavy boundary.

Btg—50 to 58 inches; light gray (N 7/0) clay; moderate medium subangular blocky structure; very firm, very sticky, moderately plastic; few distinct continuous clay films on all faces of peds; few fine prominent irregular (2.5Y 4/8) masses of oxidized iron with diffuse boundaries in matrix; few fine mica flakes; strongly acid; gradual wavy boundary.

Cg—58 to 65 inches; light gray (N 7/0) clay loam; massive; firm, moderately sticky, moderately plastic; few fine mica flakes; neutral.

Range in Characteristics

Depth to top of argillic horizon: 5 to 15 inches
Depth to base of argillic horizon: 40 to 60 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent in the A, E, and B horizons and 0 to 25 percent in the C horizon; mostly rounded quartz gravel
Soil reaction: Strongly acid to neutral throughout the profile
Mica flakes: None to common in the B and C horizons

A or Ap horizon:
Color—typically hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 4; value of 3 occurs in some pedons if the horizon is less than 6 inches thick
Texture—sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam

E horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 to 6
Texture—sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam

BA or BE horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8
Texture—loam, silt loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—clay loam, sandy clay loam, sandy clay, silty clay loam, silty clay, or clay

Redoximorphic features (if they occur)—iron depletions or clay depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

Btg horizon:
Color—horizon has hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 or 2, or it is neutral in hue and has value of 3 to 8 and chroma of 0 to 2
Texture—clay loam, sandy clay loam, sandy clay, silty clay loam, silty clay, or clay
Redoximorphic features—iron depletions or clay depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

BC or BCg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 to 8, or it is neutral in hue and has value of 4 to 8 and chroma of 0 to 2
Texture—sandy loam, sandy clay loam, clay loam, or sandy clay
Redoximorphic features (if they occur)—iron depletions or clay depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

BCg or CBg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 or 2, or it is neutral in hue and has value of 4 to 8 and chroma of 0 to 2
Texture—sandy loam, sandy clay loam, clay loam, or sandy clay
Redoximorphic features (if they occur)—iron depletions or clay depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

C or Cg horizon:
Color—horizon has hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 to 8, or it is neutral in hue and has value of 4 to 8 and chroma of 0 to 2
Texture (fine-earth fraction)—horizon is sandy loam, loam, sandy clay loam, or clay or is stratified
Redoximorphic features (if they occur)—iron depletions or clay depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

2C or 2Cg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 to 8, or it is neutral in hue and has value of 4 to 8 and chroma of 0 to 2
Texture (fine-earth fraction)—horizon is sand, loamy sand, or sandy loam or is stratified with finer textures
Redoximorphic features (if they occur)—iron depletions or clay depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

Bentley Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Ancient alluvium capping
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 7 percent

Associated Soils

- Halifax soils, which are well drained and have kaolinitic mineralogy
- Nathalie soils, which are well drained and have moderate permeability

Taxonomic Classification

Fine, mixed, semiactive, mesic Oxyaquic Hapludults

Typical Pedon

Bentley loamy sand in an area of Bentley-Nathalie complex, 2 to 7 percent slopes; 1.5 miles south on Highway VA-659 from its junction with Highway VA-682, about 750 feet north of the radio tower on Highway VA-659, in a cropped field on the north side of the road; South Boston VA USGS 7.5-minute topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 42 minutes 18.50 seconds N. and long. 78 degrees 57 minutes 9 seconds W.

Ap—0 to 17 inches; brown (10YR 5/3) loamy sand, light yellowish brown (10YR 6/4) dry; weak fine granular structure; friable, nonsticky, nonplastic; few fine and medium roots; 2 percent well rounded quartz gravel; slightly acid; abrupt smooth boundary.

BA—17 to 23 inches; yellowish brown (10YR 5/4) sandy loam; weak fine and medium granular structure; friable, nonsticky, nonplastic; few fine and very fine roots; 3 percent well rounded quartz gravel; strongly acid; clear smooth boundary.

Bt1—23 to 35 inches; yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine roots; common distinct continuous clay films on all faces of peds; 2 percent well rounded quartz gravel; very strongly acid; clear smooth boundary.

Bt2—35 to 48 inches; yellowish brown (10YR 5/8) clay; moderate medium subangular blocky and weak medium platy structure; firm, moderately sticky, moderately plastic; few very fine, fine, and medium roots; common distinct continuous clay films on all faces of peds; common medium and coarse prominent pale brown (10YR 6/3) iron depletions and red (2.5YR 4/6) masses of oxidized iron; 2 percent well rounded quartz gravel; very strongly acid; gradual wavy boundary.

BCt—48 to 61 inches; red (2.5YR 4/6), pale brown (10YR 6/3), and yellowish brown (10YR 5/8) sandy clay; weak medium platy structure; firm, moderately sticky, moderately plastic; few very fine, fine, and medium roots; few faint continuous clay films on all faces of peds; common medium prominent light gray (10YR 7/2) iron depletions; 5 percent well rounded quartz gravel; very strongly acid; gradual wavy boundary.

C—61 to 80 inches; yellowish brown (10YR 5/8) and dark yellowish brown (10YR 4/4) sandy clay loam; massive; firm, moderately sticky, moderately plastic; common medium prominent light gray (10YR 7/2) iron depletions; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 5 to 20 inches
Depth to bottom of argillic horizon: 30 to 65 inches or more
Depth to bedrock: More than 60 inches
Depth to lithologic discontinuity: More than 60 inches to residual material
Rock fragments: 0 to 15 percent in the A horizon and 0 to 35 percent in the E, B, and C horizons; mostly rounded quartz gravel and less commonly cobbles
Mica flakes: None to common throughout the profile
Soil reaction: Typically very strongly acid or strongly acid; moderately acid or slightly acid in limed areas

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 7, and chroma of 3 to 6
Texture—loamy sand, sandy loam, fine sandy loam, loam, or sandy clay loam

E horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y and value and chroma of 2 to 6
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, loam, or sandy clay loam

BA horizon:
Color—hue of 7.5YR to 2.5Y and value and chroma of 2 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Bt horizon (upper part):
Color—hue of 7.5YR to 2.5Y and value and chroma of 3 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay

Bt horizon (lower part):
Color—hue of 7.5YR to 2.5Y and value and chroma of 3 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are relict features

Btg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y, value of 3 to 8, and chroma of 1 or 2, or it is neutral in hue and has value of 3 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are relict features

BCt horizon:
Color—hue of 2.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are contemporary features

BCg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 1 or 2, or it is neutral in hue and has value of 3 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are contemporary features

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture (fine-earth fraction)—stratified gravelly sand to clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are contemporary features

Cg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 1 or 2, or it is neutral in hue and has value of 3 to 8
Texture (fine-earth fraction)—stratified gravelly sand to clay

Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are contemporary features

Brickhaven Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Triassic shale and siltstone residuum
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Deep
Slope: 2 to 15 percent

Associated Soils

- Creedmoor soils, which are moderately well drained and have soft bedrock to a depth of more than 60 inches
- Mayodan soils, which are well drained and have soft bedrock to a depth of more than 60 inches
- Pinoka soils, which are well drained, have less clay in the subsoil than the Brickhaven soils, and are moderately deep to hard bedrock

Taxonomic Classification

Fine, mixed, semiactive, thermic Oxyaquic Hapludalfs

Typical Pedon

Brickhaven fine sandy loam in an area Brickhaven-Creedmoor complex, 2 to 7 percent slopes; 800 feet south of the junction of Highways VA-637 and VA-668, in woodland; Cumberland County, Virginia; lat. 37 degrees 21 minutes 12.50 seconds N. and long. 78 degrees 24 minutes 39 seconds W.

A—0 to 3 inches; brown (10YR 5/3) fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine and common medium roots; 1 percent angular shale gravel; strongly acid; clear wavy boundary.

E—3 to 9 inches; brown (10YR 5/3) fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; common fine and medium roots; strongly acid; clear wavy boundary.

Bt1—9 to 13 inches; yellowish brown (10YR 5/6) clay loam; weak fine subangular blocky structure; friable, moderately sticky, slightly plastic; common fine roots; strongly acid; clear wavy boundary.

Bt2—13 to 25 inches; red (2.5YR 4/8), strong brown (7.5YR 5/6), and light yellowish brown (10YR 6/4) clay; moderate fine subangular blocky structure; very firm, moderately sticky, moderately plastic; common fine roots; strongly acid; clear wavy boundary.

Bt3—25 to 34 inches; light yellowish brown (10YR 6/4) clay; moderate fine subangular blocky structure; very firm, very sticky, very plastic; few fine roots; strongly acid; clear wavy boundary.

Bt4—34 to 39 inches; yellowish brown (10YR 5/6) clay; moderate fine subangular blocky structure; very firm, moderately sticky, moderately plastic; few fine roots; strongly acid; clear wavy boundary.

Bt5—39 to 44 inches; yellowish brown (10YR 5/6) clay; moderate fine subangular blocky structure; very firm, moderately sticky, moderately plastic; few fine roots; strongly acid; clear wavy boundary.

BCt—44 to 50 inches; dark yellowish brown (10YR 4/4) clay; weak fine subangular

blocky structure; very firm, moderately sticky, moderately plastic; few fine roots; strongly acid; abrupt wavy boundary.

C—50 to 56 inches; reddish brown (2.5YR 4/3) clay loam; common medium prominent olive yellow (2.5Y 6/6) and light gray (5Y 7/1) and common medium faint weak red (10R 4/3) mottles; massive; firm, slightly sticky, slightly plastic; very strongly acid; abrupt wavy boundary.

Cr—56 to 66 inches; very dusky red (10R 2.5/2) shale bedrock.

Range in Characteristics

Solum thickness: 25 to 55 inches
Depth to weathered bedrock: 40 to 60 inches
Depth to unweathered bedrock: More than 60 inches
Rock fragments: 0 to 35 percent in the A horizon, 0 to 15 percent in the E, B, and BC horizons, and 0 to 35 percent in the C horizon
Exchangeable aluminum: More than 10 meq/100g throughout the profile
Reaction: Typically extremely acid to strongly acid throughout the profile; moderately acid or slightly acid in limed areas

A or Ap horizon:
Color—hue of 7.5YR to 10YR, value of 4 to 6, and chroma of 2 to 6
Texture (fine-earth fraction)—silt loam, loam, fine sandy loam, or very fine sandy loam

E horizon:
Color—hue of 7.5YR to 10YR, value of 5 to 7, and chroma of 3 to 6
Texture—silt loam, loam, fine sandy loam, or very fine sandy loam

Bt horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 7, and chroma of 4 to 8
Texture—silty clay loam, silty clay, clay, or clay loam; particle-size control section averages more than 30 percent silt or more than 40 percent silt plus very fine sand
Redoximorphic features—iron accumulations in shades of red, yellow, or brown and iron depletions in shades of gray, yellow, or brown may occur in the lower part of the horizon in some pedons

BCt horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 7, and chroma of 4 to 6
Texture—silty clay loam, clay loam, loam, or silt loam
Redoximorphic features—iron accumulations in shades of red, yellow, or brown and iron depletions in shades of gray, yellow, or brown may occur in some pedons

C horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—silt loam, loam, silty clay loam, or clay loam saprolite
Non-redoximorphic features—mottles in shades of yellow or brown

Cr horizon:
Bedrock—weathered Triassic siltstone, mudstone, conglomerate, or shale

Carbonton Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Triassic siltstone residuum
Drainage class: Somewhat poorly drained

Slowest saturated hydraulic conductivity: Moderately low
Depth class: Moderately deep
Slope: 2 to 25 percent

Associated Soils

- Brickhaven soils, which are moderately well drained and have bedrock between depths of 40 and 60 inches
- Creedmoor soils, which are moderately well drained and have bedrock to a depth of more than 60 inches
- Mayodan soils, which are well drained and have bedrock to a depth of more than 60 inches
- Pinoka soils, which are well drained and have less clay in the subsoil than the Carbonton soils

Taxonomic Classification

Fine, mixed, semiactive, thermic Oxyaquic Hapludalfs

Typical Pedon

Carbonton fine sandy loam in an area of Pinoka-Carbonton complex, 2 to 7 percent slopes; 2,500 feet south of the junction of Highways VA-634 and VA-654, about 2,730 feet south and 630 feet east along a north/south lane; Cumberland County, Virginia; lat. 37 degrees 27 minutes 5.50 seconds N. and long. 78 degrees 22 minutes 45 seconds W.

A—0 to 3 inches; brown (7.5YR 4/3) fine sandy loam; weak coarse granular structure; friable, nonsticky, nonplastic; many fine, medium, and coarse roots; many fine and medium pores; 3 percent subangular metaquartzite gravel; very strongly acid; clear smooth boundary.

BA—3 to 8 inches; brown (7.5YR 4/4) fine sandy loam; weak coarse subangular blocky structure; friable, nonsticky, nonplastic; many fine, medium, and coarse roots; many fine and medium pores; 1 percent subangular metaquartzite gravel; very strongly acid; clear wavy boundary.

Bt1—8 to 12 inches; strong brown (7.5YR 4/6) clay loam; moderate coarse subangular blocky structure; friable, slightly sticky, nonplastic; common fine and medium roots; many fine pores; few faint discontinuous strong brown (7.5YR 4/6) clay films on all faces of peds; strongly acid; clear wavy boundary.

Bt2—12 to 20 inches; dark red (2.5YR 3/6) clay; moderate coarse subangular blocky structure; firm, moderately sticky, slightly plastic; common fine and medium roots; many fine pores; few faint discontinuous strong brown (7.5YR 4/6) clay films on all faces of peds; strongly acid; gradual wavy boundary.

Bt3—20 to 24 inches; reddish brown (2.5YR 4/4) clay; moderate medium subangular blocky structure; firm, very sticky, moderately plastic; common fine and medium roots; many fine pores; common distinct discontinuous strong brown (7.5YR 4/6) clay films on all faces of peds; few very fine mica flakes throughout horizon; strongly acid; clear wavy boundary.

BCt—24 to 28 inches; dark reddish brown (2.5YR 3/4) clay loam; weak coarse subangular blocky structure; firm, moderately sticky, moderately plastic; common fine and medium roots; many medium and coarse pores; very few faint discontinuous dark reddish brown (2.5YR 3/4) clay films on vertical faces of peds; few very fine mica flakes throughout horizon; 1 percent angular siltstone gravel; strongly acid; clear wavy boundary.

Cr—28 to 56 inches; dark reddish brown (2.5YR 3/3) soft siltstone bedrock that crushes to loam.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to weathered bedrock: 20 to 40 inches
Depth to unweathered bedrock: 40 to 60 inches or more
Rock fragments: 0 to 35 percent in the A horizon, 0 to 15 percent in the E and B horizons, and 0 to 35 percent in the C horizon
Soil reaction: Typically extremely acid to strongly acid; moderately acid to slightly acid in limed areas
Exchangeable aluminum: High (more than 10 meq/100g) throughout the profile

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 6
Texture (fine-earth fraction)—fine sandy loam, very fine sandy loam, loam, or silt loam

E horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 3 to 6
Texture—fine sandy loam, very fine sandy loam, loam, or silt loam

BA or BE horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 7, and chroma of 3 to 8
Texture—fine sandy loam, very fine sandy loam, loam, or silt loam

Bt horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 7, and chroma of 4 to 8; value ranges to 3 in some subhorizons
Texture—clay loam, silty clay loam, silty clay, or clay
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of gray, yellow, or brown may occur in the lower part of horizon in some pedons
Particle-size control section—averages more than 30 percent silt or more than 40 percent silt plus very fine sand

BCt horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 7, and chroma of 4 to 6
Texture—loam, silt loam, clay loam, or silty clay loam
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of gray, yellow, or brown may occur in some pedons

C horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 3 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam saprolite
Non-redoximorphic mottles—shades of yellow or brown

Cr horizon:
Bedrock—multicolored, weathered Triassic siltstone

R horizon (if it occurs):
Bedrock—multicolored, unweathered Triassic siltstone

Cecil Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Granite and gneiss residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high

Depth class: Very deep
Slope: 2 to 15 percent

Associated Soils

- Appling soils, which are well drained and have yellower subsoils than the Cecil soils
- Helena soils, which are moderately well drained
- Pacolet soils, which are well drained and have thinner subsoils than the Cecil soils

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Cecil sandy loam, 2 to 7 percent slopes; 0.63 mile east-southeast of the junction of Highways VA-45 and VA-676, in woodland; Cumberland County, Virginia; lat. 37 degrees 23 minutes 42.50 seconds N. and long. 78 degrees 21 minutes 38 seconds W.

Oe—0 to 1 inch; dark reddish brown (5YR 2.5/2) partially decomposed organic matter.

A—1 to 3 inches; yellowish brown (10YR 5/4) sandy loam; weak medium granular structure; very friable, nonsticky, nonplastic; many medium roots; many medium continuous tubular pores; 1 percent angular quartzite gravel; very strongly acid; abrupt wavy boundary.

BA—3 to 7 inches; strong brown (7.5YR 4/6) sandy clay loam; weak coarse subangular blocky structure parting to weak medium granular; friable, slightly sticky, slightly plastic; many fine roots; many fine and medium continuous tubular pores; 1 percent angular quartzite gravel; very strongly acid; gradual wavy boundary.

Bt1—7 to 14 inches; red (2.5YR 5/6) clay; few fine faint brownish yellow (10YR 6/6) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; many fine continuous irregular pores; common distinct continuous clay films on all faces of peds; few fine mica flakes; very strongly acid; clear wavy boundary.

Bt2—14 to 20 inches; red (2.5YR 5/8) clay; moderate medium and coarse subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; many fine continuous irregular pores; common distinct continuous clay films on all faces of peds; few fine mica flakes; very strongly acid; clear wavy boundary.

Bt3—20 to 32 inches; red (2.5YR 5/8) clay; common fine faint brownish yellow (10YR 6/6) mottles; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and medium discontinuous irregular pores; common distinct continuous clay films on all faces of peds; common fine mica flakes; strongly acid; clear wavy boundary.

BC—32 to 45 inches; red (2.5YR 4/8) clay loam; common medium faint reddish yellow (5YR 6/6) mottles; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; many medium discontinuous irregular pores; few faint patchy clay films on all faces of peds; common fine mica flakes; strongly acid; clear wavy boundary.

C—45 to 72 inches; red (2.5YR 4/8) loam; common fine faint reddish yellow (5YR 6/8) mottles; massive; friable, slightly sticky, slightly plastic; many fine and medium continuous irregular pores; common fine mica flakes; common medium irregular clay bodies; noncemented saprolite; strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches or more
Depth to bedrock: 6.5 to 10 feet or more
Rock fragments: 0 to 10 percent throughout the profile
Mica flakes: Few or common in the B horizon; few to many in the BC and C horizons

Soil reaction: Typically very strongly acid or strongly acid; moderately acid or slightly acid in limed areas

A or Ap horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 5, and chroma of 4 to 8
Texture—typically sandy loam, fine sandy loam, or loam; sandy clay loam or clay loam occur in eroded areas

BA or BE horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 to 8
Texture—clay loam, sandy clay, or clay

BC horizon:
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

C horizon:
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, or loam

Chewacla Series

Physiographic province: Southern Piedmont, thermic
Landscape: Flood-plain valleys
Parent material: Recent alluvium
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 0 to 2 percent

Associated Soils

- Riverview soils, which are well drained
- Toccoa soils, which are moderately well drained and have less clay throughout than the Chewacla soils
- Wehadkee soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts

Typical Pedon

Chewacla loam in an area of Chewacla and Monacan soils, 0 to 2 percent slopes, frequently flooded; 0.48 mile south-southeast from the confluence of Angola Creek and the Appomattox River, in cropland; Cumberland County, Virginia; lat. 37 degrees 22 minutes 11.40 seconds N. and long. 78 degrees 14 minutes 18.60 seconds W.

Ap—0 to 9 inches; dark yellowish brown (10YR 4/4) loam; weak medium granular structure; friable, slightly sticky, nonplastic; many fine roots; few very fine mica flakes; slightly acid; abrupt smooth boundary.

Bw1—9 to 17 inches; brown (10YR 5/3) loam; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; common fine pores; few faint patchy brown (10YR 5/3) silt coats on all faces of peds; few fine distinct black (10YR 2/1) iron-manganese nodules; few very fine mica flakes; moderately acid; gradual wavy boundary.

Bw2—17 to 24 inches; brown (10YR 5/3) loam; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; few fine pores; few fine distinct black (10YR 2/1) iron-manganese nodules, few fine distinct strong brown (7.5YR 4/6) masses of oxidized iron with sharp boundaries, and few fine faint grayish brown (10YR 5/2) iron depletions; few very fine mica flakes; moderately acid; gradual wavy boundary.

Bw3—24 to 30 inches; brown (7.5YR 4/4) loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; few fine roots; few fine pores; few fine distinct black (10YR 2/1) iron-manganese nodules and few fine faint light brownish gray (10YR 6/2) iron depletions; few very fine mica flakes; moderately acid; clear wavy boundary.

Bw4—30 to 36 inches; brown (7.5YR 4/4) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine pores; few fine distinct black (10YR 2/1) iron-manganese nodules and few fine faint grayish brown (10YR 5/2) iron depletions; few very fine mica flakes; moderately acid; abrupt wavy boundary.

Bg1—36 to 40 inches; dark gray (10YR 4/1) sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common fine pores; few fine distinct strong brown (7.5YR 5/6) masses of oxidized iron on surfaces along root channels; few very fine mica flakes; moderately acid; clear wavy boundary.

Bg2—40 to 50 inches; gray (10YR 5/1) sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common fine pores; common medium distinct brown (10YR 5/3) and many medium prominent dark yellowish brown (10YR 4/6) and brownish yellow (10YR 6/6) masses of oxidized iron with clear boundaries; few very fine mica flakes; slightly acid; clear wavy boundary.

Cg—50 to 62 inches; gray (10YR 5/1) clay loam; massive; friable, slightly sticky, moderately plastic; few fine roots; gray (10YR 5/1) sand coats; common medium faint brownish yellow (10YR 6/6) masses of oxidized iron with clear boundaries; common very coarse spherical gray (10YR 5/1) clay bodies; clay bodies separated by sandy faces 10 to 20 mm thick; common very fine mica flakes; slightly acid.

Range in Characteristics

Depth to bedrock: More than 72 inches

Rock fragments: 0 to 5 percent in the A horizon and the upper part of the B horizon, 0 to 15 percent in the lower part of the B horizon, and 0 to 70 percent in the C horizon

Soil reaction: Very strongly acid to slightly acid to a depth of 40 inches, except in limed areas; very strongly acid to slightly alkaline below a depth of 40 inches

Mica flakes: Few to many throughout the profile

Concretions: Few or common in some pedons

A or Ap horizon:

Color—hue of 5YR to 2.5Y, value of 3 to 5, and chroma of 1 to 6

Texture—sandy loam, fine sandy loam, loam, or silt loam

Ab horizon (if it occurs):

Color—hue of 10YR or 2.5Y, value of 2 to 5, and chroma of 1 or 2

Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, or clay loam

AB or BA horizon (if it occurs):

Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8

Texture—loam, silt loam, sandy clay loam, clay loam, or silty clay loam

Bw horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

Bg horizon:
Color—horizon is neutral in hue or has 10YR or 2.5Y, has value of 4 to 7, and has chroma of 0 to 2
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

BC or BCg horizon (if it occurs):
Color—horizon is neutral in hue or has hue of 5YR to 2.5Y, has value of 4 to 7, and has chroma of 0 to 8
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

C or Cg horizon:
Color—horizon is neutral in hue or has hue of 5YR to 2.5Y, has value of 4 to 7, and has chroma of 0 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam; below a depth of 40 inches, texture is variable, ranging from extremely gravelly sand to clay
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

Clifford Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Granite gneiss residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 15 percent

Associated Soils

- Fairview soils, which are well drained and have thinner subsoils than the Clifford soils
- Nathalie soils, which are well drained and have yellower subsoils than the Clifford soils
- Toast soils, which are well drained and have thinner and yellower subsoils than the Clifford soils

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Clifford sandy loam, 2 to 7 percent slopes; 2,300 feet east of the junction of Highways

VA-748 and VA-833, about 75 feet south of Highway VA-748, about 1.6 miles east of Nathalie, in a hayfield; Nathalie VA USGS 7.5-minute topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 55 minutes 54.50 seconds N. and long. 78 degrees 58 minutes 30 seconds W.

Ap—0 to 6 inches; brown (7.5YR 4/4) sandy loam, brown (7.5YR 5/4) dry; weak very fine granular structure; very friable, soft, nonsticky, nonplastic; many fine and few medium roots; 1 percent angular quartz gravel; moderately acid; abrupt smooth boundary.

Bt1—6 to 28 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, hard, moderately sticky, moderately plastic; common fine roots; many distinct continuous clay films on all faces of peds; few fine mica flakes; strongly acid; gradual smooth boundary.

Bt2—28 to 35 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, hard, moderately sticky, moderately plastic; many distinct continuous clay films on all faces of peds; few fine mica flakes; strongly acid; gradual smooth boundary.

Bt3—35 to 55 inches; red (2.5YR 4/8) clay loam; weak medium subangular blocky structure; firm, slightly hard, moderately sticky, moderately plastic; many distinct continuous clay films on all faces of peds; common fine mica flakes; very strongly acid; gradual wavy boundary.

C—55 to 65 inches; red (2.5YR 5/8) loam; massive; friable, slightly hard, slightly sticky, nonplastic; common fine mica flakes; strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 1 to 15 inches
Depth to base of argillic horizon: 35 inches or more
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent in the A and E horizons and 0 to 10 percent in the B and C horizons; mostly gravel and cobbles
Soil reaction: Typically very strongly acid to moderately acid throughout the profile; slightly acid in the upper part of the profile in limed areas
Mica flakes: None to many throughout the profile
Other features: Clayey part (more than 35 percent clay) of the argillic horizon extends to a depth of 30 inches or more and is 25 to 60 inches thick

Ap horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 5, and chroma of 2 to 6
Texture—typically sandy loam, fine sandy loam, or loam; sandy clay loam or clay loam occurs in eroded areas

A horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 3 or 4, and chroma of 2 to 4
Texture—sandy loam, fine sandy loam, or loam

E horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, or loam

BA or BE horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 10R to 5YR, value of 3 to 5, and chroma of 6 to 8; pedons with hue of 5YR do not have evident patterns of non-redoximorphic mottling
Texture—clay loam or clay

Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of red, brown, or yellow

BC horizon (if it occurs):
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of red, brown, or yellow

C horizon:
Color—hue of 10R to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam saprolite
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of red, brown, yellow, or white

Codorus Series

Physiographic province: Southern Piedmont, mesic
Landscape: Flood-plain valleys
Parent material: Recent alluvium
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 0 to 2 percent

Associated Soils

- Banister soils, which are moderately well drained and have more clay in the subsoil than the Codorus soils

Taxonomic Classification

Fine-loamy, mixed, active, mesic Fluvaquentic Dystrudepts

Typical Pedon

Codorus loam, 0 to 2 percent slopes, frequently flooded; 0.34 mile south of the junction of Highways VA-706 and VA-704, about 300 feet north of Stokes Creek, in a grassy field; South Boston VA USGS 7.5-minute topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 39 minutes 23.50 seconds N. and long. 78 degrees 55 minutes 9 seconds W.

Ap—0 to 8 inches; brown (10YR 5/3) loam; weak fine and medium subangular blocky structure; very friable, slightly sticky, slightly plastic; many fine and medium roots; common fine prominent yellowish red (5YR 5/8) masses of oxidized iron; moderately acid; clear smooth boundary.
Bw—8 to 17 inches; brown (10YR 5/3) and yellowish brown (10YR 5/4) loam; weak fine and medium subangular blocky structure; very friable, slightly sticky, slightly plastic; few very fine and fine roots; common fine pores; few fine prominent yellowish red (5YR 5/8) iron-manganese concretions; moderately acid; clear smooth boundary.
Bg1—17 to 23 inches; grayish brown (10YR 5/2) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; few fine pores; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; few fine mica flakes; moderately acid; gradual wavy boundary.
Bg2—23 to 33 inches; light brownish gray (10YR 6/2) sandy clay loam; weak medium

subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; common fine pores; few medium iron-manganese nodules and many medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; few fine mica flakes; moderately acid; clear smooth boundary.

Cg1—33 to 49 inches; dark grayish brown (10YR 4/2) sandy clay loam; massive; firm, slightly sticky, slightly plastic; few fine mica flakes; moderately acid; clear smooth boundary.

Cg2—49 to 62 inches; dark grayish brown (10YR 4/2) clay loam; massive; very firm; few fine mica flakes; moderately acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to bedrock: More than 72 inches
Rock fragments: 0 to 5 percent gravel in the A and B horizons and 0 to 15 percent gravel in the C horizon
Soil reaction: Very strongly acid to moderately acid in the A horizon and in the upper part of the B horizon and strongly acid to slightly acid in the lower part of the B horizon and in the C horizon
Mica flakes: None to common throughout the profile
Concretions: None to common throughout the profile

A horizon:
Color—hue of 10YR, value of 3 to 6, and chroma of 2 or 3
Texture—loam or silt loam

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—loam, silt loam, clay loam, or silty clay loam
Redoximorphic features (within a depth of 24 inches)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

Bg horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 1 or 2
Texture—loam, silt loam, sandy clay loam, clay loam, or silty clay loam
Redoximorphic features (within a depth of 24 inches)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

Cg horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 1 to 4
Texture (fine-earth fraction)—loam, silt loam, sandy clay loam, clay loam, or silty clay loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

Creedmoor Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Triassic shale and siltstone residuum
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Low
Depth class: Very deep
Slope: 2 to 15 percent

Associated Soils

- Brickhaven soils, which are moderately well drained and have soft bedrock at a depth of 20 to 40 inches
- Carbonton soils, which are somewhat poorly drained and have soft bedrock at a depth of 20 to 40 inches
- Mayodan soils, which are well drained

Taxonomic Classification

Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Creedmoor fine sandy loam in an area of Brickhaven-Creedmoor complex, 2 to 7 percent slopes; 1.8 miles northwest of the junction of Highways VA-635 and VA-635, about 1.4 miles west of the junction of Highways VA-635 and VA-668, about 0.5 mile south-southwest of the airway beacon at the Farmville Muncipal Airport; Cumberland County, Virginia; lat. 37 degrees 20 minutes 50.50 seconds N. and long. 78 degrees 26 minutes 17 seconds W.

Ap—0 to 9 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine and medium roots; slightly acid; abrupt wavy boundary.

BE—9 to 13 inches; light olive brown (2.5Y 5/4) fine sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; many fine and medium roots; strongly acid; clear wavy boundary.

Bt1—13 to 18 inches; light olive brown (2.5Y 5/6) sandy clay loam; moderate medium subangular blocky structure; friable, nonsticky, slightly plastic; few medium roots; few faint continuous clay films on all faces of peds; very strongly acid; abrupt wavy boundary.

Bt2—18 to 28 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; firm, very sticky, moderately plastic; few medium roots; common distinct discontinuous clay films on all faces of peds; few fine faint light brownish gray (10YR 6/2) iron depletions between peds and common fine distinct red (2.5YR 5/8) masses of oxidized iron; very strongly acid; clear wavy boundary.

Bt3—28 to 39 inches; yellowish brown (10YR 5/6) clay; moderate coarse angular blocky structure; very firm, very sticky, very plastic; few medium roots; few faint patchy clay films on all faces of peds; common fine prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.

BC—39 to 46 inches; yellowish brown (10YR 5/6) silty clay; weak medium subangular blocky structure; firm, moderately sticky, slightly plastic; few medium roots; few faint patchy clay films on vertical faces of peds; few fine distinct light brownish gray (10YR 6/2) iron depletions between peds and many fine faint yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; clear wavy boundary.

C1—46 to 57 inches; light yellowish brown (2.5Y 6/4) and brownish yellow (10YR 6/6) loam; weak thick platy structure derived from sedimentary rock; friable, slightly sticky, nonplastic; few medium roots; very strongly acid; abrupt wavy boundary.

C2—57 to 61 inches; brownish yellow (10YR 6/6) and yellowish brown (10YR 5/6) loam; massive; friable, slightly sticky, nonplastic; common fine distinct light brownish gray (10YR 6/2) iron depletions and common fine faint yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 25 to 60 inches
Depth to hard bedrock: More than 60 inches

Soil reaction: Typically extremely acid to strongly acid throughout the profile; moderately acid or slightly acid in limed areas
Rock fragments: 0 to 5 percent in the A and B horizons

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 1 to 6
Texture—sandy loam, fine sandy loam, loam, or silt loam

E horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 2 to 4
Texture—sandy loam, fine sandy loam, loam, or silt loam

BE horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 4 to 6
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, or silty clay loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture—sandy clay loam, clay loam, silty clay loam, sandy clay, clay, or silty clay
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of olive or gray

Btg horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 1 or 2
Texture—sandy clay loam, clay loam, silty clay loam, sandy clay, or silty clay
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of olive or gray

BC horizon:
Color—hue of 2.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture—sandy clay loam, clay loam, silty clay loam, sandy clay, or silty clay
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of olive or gray

BCg horizon (if it occurs):
Color—hue of 2.5YR to 2.5Y, value of 4 to 8, and chroma of 1 or 2
Texture—sandy clay loam, clay loam, silty clay loam, sandy clay, or silty clay
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of olive or gray

C horizon:
Color—hue of 10R to 2.5Y and value and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, or silty clay
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of olive, gray, or white

Cg horizon (if it occurs):
Color—horizon has hue of 10R to 2.5Y, value of 3 to 8, and chroma of 1 or 2, or it is neutral in hue and has value of 3 to 8
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, or silty clay
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of olive, gray, or white

Cr horizon (if it occurs):
Bedrock—weathered Triassic sandstone, mudstone, siltstone, or shale

R horizon (if it occurs):
Bedrock—hard Triassic sandstone, mudstone, siltstone, or shale

Delila Series

Physiographic province: Southern Piedmont, mesic
Landscape: Swales in valleys
Parent material: Local alluvium and/or colluvium
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope: 0 to 4 percent

Associated Soils

- Halifax soils, which are moderately well drained
- Jackland soils, which are moderately well drained and have a very high shrink-swell potential
- Toast soils, which are well drained

Taxonomic Classification

Fine, mixed, active, mesic Typic Endoaquults

Typical Pedon

Delila fine sandy loam, 0 to 4 percent slopes; 0.95 mile north of the junction of Highways VA-658 and VA-692, near Delila, in planted loblolly pine; Oak Level VA 7.5-minute USGS topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 38 minutes 41 seconds N. and long. 79 degrees 3 minutes 56 seconds W.

Ap—0 to 8 inches; grayish brown (10YR 5/2) sandy loam, pale brown (10YR 6/3) dry; moderate fine and medium granular structure; very friable, nonsticky, nonplastic; common very fine, fine, and medium roots; 3 percent subrounded quartz gravel; strongly acid; clear smooth boundary.

Btg1—8 to 21 inches; gray (10YR 6/1) clay; moderate medium subangular blocky structure; very firm, very sticky, very plastic; few very fine and fine roots; few distinct continuous clay films on all faces of peds; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; 3 percent subangular quartz gravel; very strongly acid; gradual wavy boundary.

Btg2—21 to 38 inches; gray (10YR 6/1) clay; moderate medium subangular blocky structure; very firm, very sticky, very plastic; few very fine and fine roots; few distinct continuous clay films on all faces of peds; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; few very fine and fine mica flakes; 1 percent subangular quartz gravel; very strongly acid; gradual wavy boundary.

Cg—38 to 65 inches; gray (10YR 6/1) sandy loam; massive; very friable, nonsticky, nonplastic; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; few very fine mica flakes; 3 percent subangular quartz gravel; strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 4 to 10 inches
Depth to base of argillic horizon: More than 30 inches
Thickness of clayey part of argillic horizon: 20 inches or more
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent gravel throughout the profile
Mica flakes: Few or common in the B and C horizons

Soil reaction: Typically very strongly acid or strongly acid throughout the profile; moderately acid or slightly acid in limed areas

A or Ap horizon:
Color—horizon has hue of 10YR to 5Y, value of 2 to 6, and chroma of 1 or 2, or it is neutral in hue and has value of 3 to 7
Texture—sandy loam, fine sandy loam, loam, or silt loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Eg horizon (if it occurs):
Color—horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2, or it is neutral in hue and has value of 3 to 7
Texture—sandy loam, fine sandy loam, loam, or silt loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Btg horizons:
Color—horizon has hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2, or it is neutral in hue and has value of 4 to 7
Texture—clay loam, sandy clay, or clay
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

BCg horizon (if it occurs):
Color—horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2, or it is neutral in hue and has value of 4 to 7
Texture—loam, sandy clay loam, or clay loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Cg horizon:
Color—horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2, or it is neutral in hue and has value of 4 to 7
Texture—sandy loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Devotion Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Granite gneiss residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Moderately deep
Slope: 7 to 45 percent

Associated Soils

- Nathalie and Toast soils, which are well drained, have a clayey subsoil, and are very deep to bedrock
- Fairview soils, which are well drained, have a fine-loamy subsoil, and are very deep to bedrock

Taxonomic Classification

Coarse-loamy, mixed, semiactive, mesic Typic Dystrudepts

Typical Pedon

Devotion sandy loam, 15 to 25 percent slopes; 0.7 mile northeast of the junction of Highways VA-832 and VA-642, about 100 feet east of Highway VA-642, in mixed hardwoods; Vernon Hill VA USGS 7.5-minute topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 50 minutes 32 seconds N. and long. 79 degrees 1 minute 29 seconds W.

A—0 to 10 inches; brown (10YR 5/3) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common medium and coarse roots; 5 percent angular quartz gravel; strongly acid; clear smooth boundary.

BA—10 to 14 inches; yellowish brown (10YR 5/4) sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; common medium and coarse roots; 5 percent angular quartz gravel; very strongly acid; gradual smooth boundary.

Bw—14 to 25 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common medium and coarse roots; common fine mica flakes; 5 percent angular quartz gravel; very strongly acid; gradual smooth boundary.

C—25 to 30 inches; olive yellow (2.5Y 6/6) sandy loam; massive; friable, nonsticky, nonplastic; common fine mica flakes; 5 percent angular quartz gravel; very strongly acid; gradual smooth boundary.

Cr—30 to 52 inches; weathered granite gneiss bedrock.

R—52 to 62 inches; unweathered granite gneiss bedrock.

Range in Characteristics

Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches
Rock fragments: 5 to 15 percent in the A horizon and 5 to 35 percent in the E, B and C horizons; mostly gravel and cobbles
Reaction: Extremely acid to moderately acid throughout the profile

A horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 2 to 4
Texture—sandy loam, fine sandy loam, or loam

E horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 or 4
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA or BE horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bw horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

C horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 6 to 8
Texture (fine-earth fraction)—coarse sandy loam, sandy loam, or fine sandy loam

Cr horizon:
Bedrock—highly weathered granite gneiss

R horizon:
Bedrock—unweathered granite gneiss

Diana Mills Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Metavolcanic residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Deep
Slope: 2 to 7 percent

Associated Soils

- Oak Level soils, which are well drained and have bedrock to a depth of more than 60 inches
- Siloam soils, which are well drained and have bedrock within a depth of 10 to 20 inches
- Spriggs soils, which are well drained, have less clay in the subsoil than the Diana Mills soils, and have bedrock between depths of 20 and 40 inches

Taxonomic Classification

Fine, mixed, subactive, mesic Typic Hapludults

Typical Pedon

Diana Mills paracobbly loam in an area of Oak Level-Diana Mills complex, 2 to 7 percent slopes; 0.97 mile east-northeast from the junction of Highways VA-611 and VA-671, about 0.92 mile west-northwest from Highway VA-611 and railroad 677, in a pine plantation; Buckingham County, Virginia; lat. 37 degrees 40 minutes 57.20 seconds N. and long. 78 degrees 24 minutes 45.90 seconds W.

Ap—0 to 5 inches; brown (7.5YR 4/2) paracobbly loam; moderate very fine and fine granular structure; very friable, soft, slightly sticky, slightly plastic; common fine, medium, and coarse roots between peds; many very fine, fine, and medium vesicular pores; 7 percent angular quartzite gravel and 15 percent angular metavolcanics cobbles; moderately acid; clear smooth boundary.

AB—5 to 10 inches; yellowish red (5YR 4/6) paracobbly loam; moderate very fine and fine granular structure; very friable, soft, slightly sticky, slightly plastic; common fine, medium, and coarse roots between peds; many very fine, fine, and medium vesicular pores; 10 percent angular quartzite gravel and 15 percent angular metavolcanic cobbles; strongly acid; clear smooth boundary.

Bt1—10 to 26 inches; red (2.5YR 4/6) very paracobbly clay; strong fine and medium subangular blocky structure; friable, slightly hard, moderately sticky, moderately plastic; common fine, medium, and coarse roots between peds; common very fine and fine vesicular pores; many distinct continuous red (2.5YR 4/6) clay films on all faces of peds; 14 percent angular quartzite gravel and 25 percent angular metavolcanic cobbles; very strongly acid; gradual smooth boundary.

Bt2—26 to 42 inches; red (2.5YR 4/6) clay; strong fine and medium subangular blocky structure; friable, slightly hard, moderately sticky, moderately plastic; common fine roots between peds; common very fine and fine vesicular pores; many distinct continuous red (2.5YR 4/6) clay films on all faces of peds; 5 percent angular quartzite gravel and 5 percent angular metavolcanic cobbles; very strongly acid; gradual smooth boundary.

Cr—42 to 52 inches; yellowish brown (10YR 8/8 and 10YR 5/6), strong brown (7.5YR 5/8), and red (2.5YR 4/6) metavolcanic bedrock that crushes to sandy loam and loam; very friable.

Range in Characteristics

Depth to top of argillic horizon: 4 to 12 inches
Depth to base of argillic horizon: 12 to 58 inches
Depth to paralithic contact: 40 to 60 inches
Depth to hard bedrock: More than 60 inches
Rock fragments: 0 to 35 percent quartzite gravel; 0 to 35 percent pararock fragments throughout the profile
Soil reaction: Extremely acid to slightly acid throughout the profile
Mica flakes: None to common in the B and C horizons
Other features: Linear extensibility percentage (LEP) of the heaviest textured subsurface horizon is 3 to 6 (moderate shrink-swell potential); silt content of the particle-size control section is less than 30 percent

A or Ap horizon:
Color—hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 2 to 6
Texture (fine-earth fraction)—sandy loam, loam, or silt loam

AB, BA, or BE horizon (if it occurs):
Color—hue of 2.5YR to 5YR, value of 3 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

Bt horizon:
Color (upper part)—hue of 2.5YR or 5YR, value of 3 to 6, and chroma of 4 to 8
Color (lower part)—hue of 10R to 5YR, value of 3 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—clay loam or clay
Non-redoximorphic mottles—shades of red, brown, yellow, or white; mostly in the lower part of horizon

BC horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 4 to 7, and chroma of 4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam
Non-redoximorphic mottles—shades of red, brown, yellow, or white

C horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 3 to 7, and chroma of 1 to 8
Texture (fine-earth fraction)—sandy loam, loam, sandy clay loam, or clay loam
Non-redoximorphic mottles—shades of red, brown, yellow, or white

Cr horizon:
Bedrock kind—intermediate or mafic crystalline rock or igneous rock
Bedrock hardness—extremely weakly cemented to moderately cemented
Fracture interval—more than 4 inches
Excavation difficulty—low to high

Dogue Series

Physiographic province: Southern Piedmont, thermic
Landscape: Stream terrace valleys
Parent material: Ancient alluvium
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 0 to 7 percent

Associated Soils

- State soils, which are well drained and have less clay in the subsoil than the Dogue soils

- Wehadkee soils, which are poorly drained and have less clay in the subsoil than the Dogue soils

Taxonomic Classification

Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Dogue fine sandy loam, 0 to 2 percent slopes, rarely flooded; 1,600 feet west of the Highway US-360 bridge over the Appomattox River, 1,200 feet south of Highway US-360, in woodland; Amelia County, Virginia:

Ap—0 to 2 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine roots; very strongly acid; abrupt wavy boundary.

E—2 to 8 inches; light yellowish brown (2.5Y 6/4) sandy loam; weak medium granular structure; friable, nonsticky, nonplastic; many fine and medium roots; very strongly acid; clear smooth boundary.

BE—8 to 14 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; many fine and medium roots; few faint patchy clay films on all faces of peds; few very fine mica flakes; strongly acid; clear wavy boundary.

Bt1—14 to 21 inches; brownish yellow (10YR 6/8) clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; few faint patchy clay films on all faces of peds; many medium distinct light yellowish brown (10YR 6/4) iron depletions with diffuse boundaries; few very fine mica flakes; strongly acid; clear wavy boundary.

Bt2—21 to 27 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm, moderately sticky, slightly plastic; few fine and medium roots; few faint patchy clay films on all faces of peds; common medium distinct brown (10YR 5/3) iron depletions with diffuse boundaries and many medium distinct reddish yellow (7.5YR 6/6) masses of oxidized iron with diffuse boundaries; few very fine mica flakes; strongly acid; gradual wavy boundary.

Bt3—27 to 32 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm, moderately sticky, slightly plastic; few fine roots; few faint patchy clay films on all faces of peds; many medium prominent light brownish gray (10YR 6/2) and pale brown (10YR 6/3) iron depletions with diffuse boundaries; few very fine mica flakes; very strongly acid; gradual wavy boundary.

Bt4—32 to 38 inches; brown (10YR 5/3) clay; moderate coarse subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; few faint patchy clay films on all faces of peds; common medium prominent gray (10YR 6/1) iron depletions with diffuse boundaries and many medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; few very fine mica flakes; very strongly acid; gradual wavy boundary.

BC—38 to 54 inches; brown (10YR 5/3) clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; very few faint patchy clay films on all faces of peds; many medium prominent strong brown (7.5YR 5/8) masses of oxidized iron with diffuse boundaries and many medium prominent light brownish gray (10YR 6/2) and gray (10YR 6/1) iron depletions with diffuse boundaries; few very fine mica flakes; very strongly acid; clear wavy boundary.

Cg—54 to 65 inches; light brownish gray (2.5Y 6/2) sandy clay loam; massive; friable, slightly sticky, nonplastic; common fine distinct pale yellow (2.5Y 7/4) masses of oxidized iron; few very fine mica flakes; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 5 percent in the A, E, and B horizons and 0 to 15 percent in the C horizon
Soil reaction: Typically extremely acid to strongly acid throughout the profile; moderately acid or slightly acid in limed areas

A horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 2 to 4
Texture—sandy loam, fine sandy loam, or loam

E horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 to 6
Texture—sandy loam, fine sandy loam, or loam

BA or BE horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

Btg horizon (if it occurs):
Color—horizon is neutral in hue or has hue of 7.5YR to 2.5Y, has value of 4 to 7, and has chroma of 0 to 2
Texture—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

BC or BCg horizon:
Color—horizon is neutral in hue or has hue of 7.5YR to 2.5Y, has value of 4 to 7, and has chroma of 0 to 8
Texture—sandy loam, sandy clay loam, clay loam, or sandy clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

C or Cg horizon:
Color—horizon is neutral in hue or has hue of 7.5YR to 2.5Y, has value of 4 to 7, and has chroma of 0 to 8
Texture—sandy loam, loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

Enon Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Mafic rock residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope: 2 to 25 percent

Associated Soils

- Helena soils, which are moderately well drained and have lower base saturation than the Enon soils
- Mecklenburg soils, which are well drained, have redder subsoils than the Enon soils, and have lower base saturation at depth
- Trenholm soils, which are moderately well drained

Taxonomic Classification

Fine, mixed, active, thermic Ultic Hapludalfs

Typical Pedon

Enon sandy loam in an area of Enon-Helena complex, 2 to 7 percent slopes; 0.76 mile east of the junction of Highways US-60 and VA-603, about 0.71 mile north of Highway US-60, about 160 feet northwest of an access road; Cumberland County, Virginia:

A—0 to 1 inch; dark grayish brown (2.5Y 4/2) sandy loam; weak medium granular structure; very friable, nonsticky, nonplastic; many fine and medium and common coarse roots; strongly acid; abrupt wavy boundary.

E—1 to 6 inches; yellowish brown (10YR 5/4) sandy loam; weak coarse granular structure; very friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; moderately acid; clear wavy boundary.

BE—6 to 11 inches; yellowish brown (10YR 5/6) sandy clay loam; weak very coarse subangular blocky structure; firm, moderately sticky, slightly plastic; many fine and medium and common coarse roots; common medium prominent spherical moderately cemented black (10YR 2/1) iron-manganese concretions; 2 percent angular quartz gravel; moderately acid; clear wavy boundary.

Bt1—11 to 20 inches; strong brown (7.5YR 5/6) clay; moderate medium prismatic structure parting to moderate medium subangular blocky; firm, very sticky, very plastic; many fine, medium, and coarse roots; few distinct patchy clay films on all faces of peds; 2 percent angular quartz gravel; slightly acid; gradual wavy boundary.

Bt2—20 to 31 inches; strong brown (7.5YR 5/6) clay; moderate medium prismatic structure parting to moderate medium subangular blocky; very firm, very sticky, very plastic; common fine, medium, and coarse roots; common distinct discontinuous clay films on all faces of peds; slightly acid; gradual wavy boundary.

Bt3—31 to 38 inches; brown (7.5YR 5/4) clay; moderate medium prismatic structure parting to moderate medium subangular blocky; very firm, very sticky, very plastic; common fine and medium roots; common distinct discontinuous clay films on all faces of peds; common coarse prominent spherical strongly cemented black (10YR 2/1) iron-manganese concretions; neutral; clear wavy boundary.

BC—38 to 43 inches; brown (7.5YR 5/4) sandy clay loam; common fine distinct brownish yellow (10YR 6/6) mottles; moderate coarse subangular blocky structure; very firm, moderately sticky, moderately plastic; few fine and medium roots; many coarse prominent irregular weakly cemented black (10YR 2/1) manganese coatings on horizontal faces of peds; neutral; clear wavy boundary.

C1—43 to 53 inches; yellowish brown (10YR 5/4) and brown (7.5YR 4/4) clay loam; many coarse prominent irregular black (10YR 2/1) mottles; massive; very firm, slightly sticky, nonplastic; few fine roots; many coarse prominent irregular weakly cemented black (10YR 2/1) manganese coatings; many fine mica flakes; neutral; clear wavy boundary.

C2—53 to 62 inches; strong brown (7.5YR 4/6) clay loam; common fine distinct brown (7.5YR 4/2) mottles; massive; firm, slightly sticky, nonplastic; many fine prominent irregular weakly cemented black (10YR 2/1) manganese coatings; many fine mica flakes; neutral.

Range in Characteristics

Solum thickness: 20 to 50 inches over saprolite
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 35 percent in the A and E horizons and 0 to 15 percent in the B and C horizons
Soil reaction: Strongly acid to slightly acid acid in the A and E horizons; strongly acid to moderately alkaline in the B and C horizons
Mica content: None to common throughout the profile
Other features: Few or common black manganese concretions occur in most pedons

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 2 to 4
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

E horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 4
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA or BE horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—clay or clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

BC horizon:
Color—hue of 7.5YR to 5Y, value of 4 to 6, and chroma of 3 to 8
Texture—loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

C horizon:
Color—hue of 7.5YR to 5Y, value of 4 to 6, and chroma of 3 to 8
Texture—sandy loam, loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

Exway Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Triassic mudstone and siltstone residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope: 2 to 15 percent

Associated Soils

- Brickhaven soils, which are moderately well drained and have bedrock within a depth of 40 to 60 inches
- Carbonton soils, which are somewhat poorly drained
- Creedmoor soils, which are moderately well drained and have bedrock at a depth of more than 60 inches

- Mayodan soils, which are well drained, are less red than the Exway soils, and have bedrock at a depth of more than 60 inches

Taxonomic Classification

Fine, mixed, active, thermic Typic Rhodudults

Typical Pedon

Exway clay loam in an area of Mayodan-Exway complex, 2 to 7 percent slopes; 0.8 mile west of Covington on Secondary Road 1152, about 0.1 mile north on Secondary Road 1186, about 0.6 mile northeast on a farm road, 350 feet northeast of the road, in the east corner of a cultivated field; Richmond County, North Carolina; lat. 35 degrees 8 minutes 11.50 seconds N. and long. 79 degrees 52 minutes 7.20 seconds W.

Ap—0 to 4 inches; dark reddish brown (5YR 3/4) clay loam; moderate medium granular structure; friable, nonsticky, slightly plastic; many fine, medium, and coarse roots; 3 percent subangular siltstone gravel; slightly acid; clear smooth boundary.

Bt1—4 to 12 inches; dark red (2.5YR 3/6) silty clay; common fine distinct yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; many fine and medium roots; common distinct continuous clay films on all faces of peds; 5 percent subangular siltstone gravel; strongly acid; gradual wavy boundary.

Bt2—12 to 19 inches; dark reddish brown (2.5YR 3/4) silty clay; common medium distinct reddish yellow (5YR 6/8), dark red (10R 3/6), and red (2.5YR 4/8) mottles; strong medium subangular blocky structure; firm, moderately sticky, moderately plastic; many fine and medium roots; common distinct continuous clay films on all faces of peds; 5 percent subangular siltstone gravel; strongly acid; gradual wavy boundary.

BC—19 to 24 inches; dark reddish brown (2.5YR 3/4) silty clay loam; common fine prominent pinkish gray (5YR 7/2) and common medium distinct red (2.5YR 4/8), dark red (10R 3/6), and reddish yellow (5YR 6/8) mottles; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; 10 percent subangular siltstone gravel; very strongly acid; gradual irregular boundary.

Cr—24 to 41 inches; weathered and variegated slightly fractured interbedded siltstone and mudstone bedrock.

Range in Characteristics

Solum thickness: 19 to 39 inches
Depth to soft bedrock: 20 to 40 inches
Rock fragments: 0 to 15 percent in the A and B horizons
Soil reaction: Typically very strongly acid to moderately acid; slightly acid to neutral in limed areas
Concretions: None to common dark manganese oxide concretions occur throughout the profile

A or Ap horizon:
Color—hue of 2.5YR to 7.5YR, value of 2 or 3, and chroma of 2 to 6
Texture—loam, silt loam, silty clay loam, or clay loam

Bt horizon:
Color—hue of 10R or 2.5YR, value of 3, and chroma of 2 to 6
Texture—clay loam, silty clay loam, clay, or silty clay
Non-redoximorphic mottles—in some pedons; shades of yellow, brown, or red

BC horizon:
Color—hue of 10R to 5YR, value of 2 to 4, and chroma of 3 to 6
Texture—clay loam, silty clay loam, or silty clay
Non-redoximorphic mottles—in some pedons; shades of yellow, brown, or red

Cr horizon:
Bedrock—multicolored weathered, slightly fractured siltstone and mudstone

Fairview Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Granite gneiss residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 15 to 45 percent

Associated Soils

- Clifford soils, which are well drained and have thicker subsoils than the Fairview soils
- Devotion soils, which are well drained and have bedrock between depths of 20 and 40 inches
- Toast soils, which are well drained and have browner subsoils than the Fairview soils

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Fairview sandy loam in an area of Fairview-Devotion complex, 15 to 25 percent slopes; 1,000 feet north on Highway VA-693 from the North Carolina-Virginia State line, northeast of Milton, North Carolina, in cutover woodland; Milton VA-NC 7.5-minute USGS topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 32 minutes 39 seconds N. and long. 79 degrees 11 minutes 50 seconds W.

Ap—0 to 1 inch; brown (10YR 4/3) sandy loam; moderate fine granular structure; very friable, soft, nonsticky, nonplastic; common very fine and fine roots; 10 percent angular quartz gravel; strongly acid; clear smooth boundary.

E—1 to 6 inches; yellowish brown (10YR 5/4) sandy loam; moderate fine granular structure; very friable, soft, nonsticky, nonplastic; common fine and medium roots; few fine tubular pores; 10 percent angular quartz gravel; strongly acid; clear smooth boundary.

Bt1—6 to 20 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, hard, moderately sticky, moderately plastic; few medium and coarse roots; common fine tubular pores; common distinct continuous clay films on all faces of peds; common very fine and fine mica flakes; very strongly acid; gradual wavy boundary.

Bt2—20 to 23 inches; red (2.5YR 4/6) sandy clay; weak medium subangular blocky structure; firm, hard, slightly sticky, slightly plastic; common fine tubular pores; common distinct clay films on all faces of peds; common very fine and fine mica flakes; very strongly acid; gradual wavy boundary.

BC—23 to 38 inches; strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) sandy loam; weak fine and medium subangular blocky structure; very friable, slightly hard, slightly sticky, nonplastic; few fine tubular pores; few faint continuous clay films on vertical faces of peds; common fine and medium mica flakes; very strongly acid; gradual wavy boundary.

C—38 to 62 inches; strong brown (7.5YR 5/8) sandy loam; massive; very friable, slightly hard, nonsticky, nonplastic; common fine and medium mica flakes; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 1 to 15 inches
Depth to base of argillic horizon: 15 inches or more
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent in the A horizon, 0 to 30 percent in the E horizon, and 0 to 15 percent in the B and C horizons; mostly gravel
Soil reaction: Typically extremely acid to moderately acid throughout the profile; slightly acid in limed areas
Mica flakes: None to common in the A and E horizons and in the upper part of the B horizon; none to many in the lower part of the B horizon and in the C horizon
Other features: Clayey part (more than 35 percent clay) of the argillic horizon extends to a depth of less than 30 inches and is less than 24 inches thick

A or Ap horizon:
Color—hue of 5YR to 10YR, value of 3 to 6, and chroma of 2 to 8
Texture—sandy loam, fine sandy loam, or loam

E horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BE or BA horizon (if it occurs):
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture—fine sandy loam, loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 10R to 5YR, value of 4 or 5, and chroma of 4 to 8
Texture—clay loam, sandy clay, or clay
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of red, brown, or yellow

BC horizon:
Color—hue of 10R to 7.5YR, value of 4 or 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of red, brown, or yellow

C horizon:
Color—hue of 10R to 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam saprolite
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of red, brown, or yellow

Halifax Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Hornblende gneiss residuum
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope: 2 to 15 percent

Associated Soils

- Bentley soils, which are moderately well drained and have a capping of old alluvium
- Delila soils, which are poorly drained
- Nathalie soils, which are well drained and have kaolinitic mineralogy
- Rasalo soils, which are well drained and have higher base saturation at depth than the Halifax soils

Taxonomic Classification

Fine, mixed, semiactive, mesic Aquic Hapludults

Typical Pedon

Halifax sandy loam, 2 to 7 percent slopes; 2,400 feet southeast of the junction of Highways VA-716 and VA-854, about 900 feet east of Highway VA-854, in a hayfield; South Boston VA USGS 7.5-minute topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 43 minutes 22.30 seconds N. and long. 78 degrees 52 minutes 46.30 seconds W.

Ap—0 to 13 inches; light olive brown (2.5Y 5/4) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine roots; 2 percent angular quartz gravel; moderately acid; abrupt smooth boundary.

Bt1—13 to 25 inches; brownish yellow (10YR 6/6) clay; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; few distinct continuous clay films on all faces of peds; common fine prominent irregular red (2.5YR 5/8) masses of oxidized iron with diffuse boundaries; 2 percent angular quartz gravel; strongly acid; clear smooth boundary.

Bt2—25 to 39 inches; brownish yellow (10YR 6/6) clay; moderate medium subangular blocky structure; very firm, moderately sticky, moderately plastic; few fine roots; few distinct continuous clay films on all faces of peds; common fine prominent irregular red (2.5YR 5/8) masses of oxidized iron with diffuse boundaries and many medium prominent irregular light gray (2.5Y 7/2) iron depletions with diffuse boundaries; 2 percent angular quartz gravel; strongly acid; clear smooth boundary.

Btg—39 to 58 inches; gray (10YR 6/1) clay; strong medium and coarse subangular blocky structure; very firm, very sticky, very plastic; few fine roots; few distinct continuous clay films on all faces of peds; common fine prominent irregular brownish yellow (10YR 6/6) and many medium prominent irregular olive yellow (2.5Y 6/8) masses of oxidized iron with diffuse boundaries; few fine mica flakes; strongly acid; gradual wavy boundary.

C—58 to 65 inches; yellowish brown (10YR 5/8) and pale yellow (2.5Y 7/3 and 7/4) clay loam; massive; firm, slightly sticky, slightly plastic; common fine prominent olive yellow (2.5Y 6/8) masses of oxidized iron; common fine mica flakes; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 6 to 18 inches
Depth to base of argillic horizon: More than 30 inches
Thickness of clayey part of argillic horizon: 20 inches or more
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent gravel throughout the profile
Soil reaction: Typically extremely acid to strongly acid throughout the profile; moderately acid or slightly acid in limed areas
Mica flakes: Few or common in the B and C horizons
Other features: Linear extensibility percentage (LEP) of the heaviest textured subsurface horizon is 6 to 9 (high shrink-swell potential)

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 to 4
Texture—coarse sandy loam, sandy loam, fine sandy loam, or loam

E horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 2 to 4
Texture—coarse sandy loam, fine sandy loam, sandy loam, or loam

BE or BA horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture—sandy loam, loam, or sandy clay loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 8, and chroma of 3 to 8
Texture—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray occur within 24 inches of the upper boundary of the Bt horizon

Btg horizon:
Color—horizon is neutral in hue or has hue of 10YR or 2.5Y, has value of 4 to 7, and has chroma of 0 to 2
Texture—clay loam, sandy clay, or clay
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

BC horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

BCg horizon (if it occurs):
Color—horizon is neutral in hue or has hue of 10YR or 2.5Y, has value of 4 to 7, and has chroma of 0 to 2
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

C horizon:
Color—hue of 5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture—loamy sand, sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Cg horizon (if it occurs):
Color—horizon is neutral in hue or has hue of 10YR or 2 5Y, has value of 4 to 7, and has chroma of 0 to 2
Texture—loamy sand, sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam saprolite
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Helena Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands

Parent material: Granite and gneiss residuum
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope: 2 to 25 percent

Associated Soils

- Cecil and Pacolet soils, which are well drained and have kaolinitic mineralogy
- Enon soils, which are well drained and have higher base saturation at depth than the Helena soils
- Wateree soils, which are well drained and have soft bedrock within a depth of 20 to 40 inches

Taxonomic Classification

Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Helena sandy loam, 2 to 7 percent slopes; 1,100 feet east-northeast from the junction of Highways VA-654 and VA-13, in cropland; Cumberland County, Virginia; lat. 37 degrees 28 minutes 59.50 seconds N. and long. 78 degrees 9 minutes 46 seconds W.

Ap—0 to 9 inches; brown (10YR 5/3) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; 5 percent angular quartz gravel; slightly acid; abrupt smooth boundary.

BE—9 to 11 inches; light yellowish brown (10YR 6/4) sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; many fine distinct yellowish brown (10YR 5/6) and many fine faint brownish yellow (10YR 6/6) masses of oxidized iron; 14 percent angular quartz gravel; slightly acid; abrupt smooth boundary.

Bt1—11 to 13 inches; yellowish brown (10YR 5/6) clay; weak coarse subangular blocky structure; firm, moderately sticky, moderately plastic; few faint patchy yellowish brown (10YR 5/6) clay films on all faces of peds; many fine distinct light yellowish brown (10YR 6/4) and strong brown (7.5YR 5/6) masses of oxidized iron; moderately acid; abrupt smooth boundary.

Bt2—13 to 22 inches; brownish yellow (10YR 6/6) and strong brown (7.5YR 5/6) clay; weak coarse subangular blocky and angular blocky structure; very firm, moderately sticky, moderately plastic; few faint discontinuous yellowish brown (10YR 5/6) clay films on all faces of peds; common fine prominent irregular yellowish red (5YR 5/6) masses of oxidized iron; strongly acid; clear wavy boundary.

Bt3—22 to 28 inches; brownish yellow (10YR 6/6) clay; weak medium subangular blocky, moderate medium subangular blocky, and moderate medium angular blocky structure; very firm, moderately sticky, moderately plastic; few faint discontinuous brownish yellow (10YR 6/6) clay films on all faces of peds; common fine distinct irregular yellowish brown (10YR 5/8) masses of oxidized iron and common medium prominent irregular very pale brown (10YR 8/2) iron depletions; strongly acid; clear wavy boundary.

Bt4—28 to 33 inches; brownish yellow (10YR 6/6) and strong brown (7.5YR 5/6) clay; weak coarse subangular blocky structure; very firm, moderately sticky, moderately plastic; few faint patchy yellowish brown (10YR 5/6) clay films on all faces of peds; few fine prominent irregular red (10R 4/8) masses of oxidized iron and common medium prominent irregular very pale brown (10YR 8/2) and many fine distinct irregular light brownish gray (10YR 6/2) iron depletions with diffuse boundaries; strongly acid; gradual wavy boundary.

Bt5—33 to 43 inches; light yellowish brown (2.5Y 6/3) clay; weak coarse and moderate

very coarse subangular blocky structure; extremely firm, moderately sticky, very plastic; few prominent patchy gray (5Y 5/1) clay films on all faces of peds and pressure faces on vertical faces of peds; few fine prominent irregular strong brown (7.5YR 5/8) and red (10R 4/8) masses of oxidized iron in matrix and common medium prominent irregular very pale brown (10YR 8/2) and many fine prominent irregular light gray (10YR 7/2) iron depletions in matrix; very strongly acid; clear wavy boundary.

C—43 to 64 inches; light yellowish brown (10YR 6/4) sandy loam saprolite; massive; very friable, nonsticky, nonplastic; strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches or more
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent quartz gravel throughout the profile
Soil reaction: Typically extremely acid to strongly acid throughout the profile; moderately acid or slightly acid in limed areas

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 to 4
Texture—coarse sandy loam, sandy loam, fine sandy loam, or loam

E horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 2 to 4
Texture—coarse sandy loam, sandy loam, fine sandy loam, or loam

BA or BE horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture—sandy clay loam or clay loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 8, and chroma of 3 to 8
Texture—sandy clay, clay, or clay loam
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray occur within 24 inches of the upper boundary of the Bt horizon

Btg horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture—clay loam, sandy clay, or clay
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

BC or BCg horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 1 to 8
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

C or Cg horizon:
Color—hue of 5YR to 5Y, value of 5 to 8, and chroma of 1 to 8
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Jackland Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands

Parent material: Amphibolite residuum
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Low
Depth class: Very deep
Slope: 2 to 7 percent

Associated Soils

- Mirerock soils, which are well drained
- Spriggs soils, which are well drained and have less clay in the subsoil than the Jackland soils

Taxonomic Classification

Fine, smectitic, mesic Aquic Hapludalfs

Typical Pedon

Jackland loam in an area of Jackland-Mirerock complex, 2 to 7 percent slopes; 3,200 feet north on Highway VA-680 from its junction with Highway VA-683, about 400 feet west off Highway VA-680, in an idle field; Oak Level VA USGS 7.5-minute topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 32 minutes 55 seconds N. and long. 78 degrees 59 minutes 23 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) loam; weak fine granular structure; very friable, nonsticky, nonplastic; few fine and medium roots; 2 percent angular quartz gravel; strongly acid; abrupt smooth boundary.

Btss—8 to 30 inches; yellowish brown (10YR 5/4) clay; strong medium angular blocky structure; very firm, very sticky, very plastic; few fine roots between peds; common prominent continuous clay films on all faces of peds; common medium prominent light gray (10YR 7/2) iron depletions; few fine mica flakes; slightly acid; clear smooth boundary.

C—30 to 65 inches; yellowish brown (10YR 5/6) and olive (5Y 5/6) sandy loam; massive; very friable, nonsticky, nonplastic; few fine and medium and common mica flakes; slightly acid.

Range in Characteristics

Solum thickness: 30 to 48 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent in the A horizon and 0 to 20 percent in the E, B, and C horizons
Soil reaction: Very strongly acid to moderately acid in the A and E horizons and the upper part of the B horizon; very strongly acid to slightly alkaline in the lower part of the B horizon and in the C horizon
Mica flakes: None or few throughout the profile

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 to 6
Texture—loam or silt loam

E horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 6
Texture (fine-earth fraction)—sandy loam, loam, or silt loam

BA or BE horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture (fine-earth fraction)—loam, silt loam, or clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red

Btss horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture (fine-earth fraction)—clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

BC horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture (fine-earth fraction)—loam, silt loam, sandy clay loam, clay loam, or silty clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

C horizon:
Color—hue of 7.5YR to 5Y and value and chroma of 3 to 8
Texture (fine-earth fraction)—sandy loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

Mattaponi Series

Physiographic province: Southern Piedmont, thermic
Landscape: High marine terrace valleys
Parent material: Ancient alluvium capping
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 7 percent

Associated Soils

- Appling soils, which are well drained and have kaolinitic mineralogy
- Helena soils, which are moderately well drained

Taxonomic Classification

Fine, mixed, subactive, thermic Oxyaquic Hapludults

Typical Pedon

Mattaponi sandy loam in an area of Mattaponi-Appling complex, 2 to 7 percent slopes; 500 feet east of Highway VA-644, about 2,000 feet north of Highway VA-652, about 200 feet south of a utility pole on a farm road; Halifax County, Virginia; lat. 36 degrees 52 minutes 56.50 seconds N. and long. 77 degrees 56 minutes 34 seconds W.

A—0 to 10 inches; brown (10YR 5/3) sandy loam; moderate medium granular structure; very friable, nonsticky, nonplastic; many very fine, fine, and medium and few coarse roots; neutral; abrupt smooth boundary.
E—10 to 14 inches; light yellowish brown (10YR 6/4) sandy loam; moderate medium granular structure; friable, nonsticky, nonplastic; many very fine, fine, and medium and few coarse roots; slightly acid; clear smooth boundary.
Bt1—14 to 19 inches; brownish yellow (10YR 6/6) clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine, fine, and medium roots; moderately acid; clear wavy boundary.
Bt2—19 to 25 inches; brownish yellow (10YR 6/8) clay; common fine faint strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine, fine, and medium roots; strongly acid; clear wavy boundary.

Bt3—25 to 36 inches; strong brown (7.5YR 5/8) clay; common medium distinct yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine, fine, and medium roots; very strongly acid; clear wavy boundary.

BC—36 to 60 inches; strong brown (7.5YR 5/8) clay loam; weak medium subangular blocky structure; firm, moderately sticky, moderately plastic; common coarse distinct platy red (2.5YR 4/8) masses of oxidized iron with clear boundaries and common coarse prominent platy light gray (10YR 7/1) iron depletions with clear boundaries; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

Rock fragments: 0 to 15 percent in the A and E horizons and 0 to 35 percent in the B and C horizons; mostly rounded quartzite

Soil reaction: Typically very strongly acid or strongly acid; moderately acid to neutral in limed areas

Other features: Particle-size control section contains less than 30 percent silt; some pedons have less than 5 percent plinthite, by volume, in the lower part of the Bt horizon

A or Ap horizon:

Color—hue of 5YR to 2.5Y, value of 2 to 7, and chroma of 2 to 8

Texture—sandy loam, fine sandy loam, or loam

E horizon:

Color—hue of 5YR to 2.5Y, value of 2 to 7, and chroma of 2 to 8

Texture—sandy loam, fine sandy loam, or loam

Bt horizon (upper part):

Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8

Texture (fine-earth fraction)—clay loam, sandy clay, or clay

Bt horizon (lower part):

Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8

Texture (fine-earth fraction)—clay loam, sandy clay, or clay

Redoximorphic features—iron masses in shades of red, brown, or yellow and iron depletions in shades of brown, yellow, and gray; in some pedons these colors are relict features

BC horizon:

Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8

Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay

Redoximorphic features—iron masses in shades of red, brown, or yellow and iron depletions in shades of brown, yellow, or gray

C horizon (if it occurs):

Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8

Texture (fine-earth fraction)—sandy loam, loam, sandy clay loam, or clay loam

Redoximorphic features—iron masses in shades of red, brown, or yellow and iron depletions in shades of brown, yellow, or gray

2C horizon (if it occurs):

Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8

Texture (fine-earth fraction)—loamy sand, sandy loam, or loam

Redoximorphic features—iron masses in shades of red, brown, or yellow and iron depletions in shades of brown, yellow, or gray

Mayodan Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Triassic siltstone residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 15 percent

Associated Soils

- Brickhaven soils, which are moderately well drained and have bedrock between depths of 40 and 60 inches
- Creedmoor soils, which are moderately well drained
- Exway soils, which are well drained and have redder subsoils than the Mayodan soils
- Pinoka soils, which are well drained and have less clay in the subsoil than the Mayodan soils

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Mayodan fine sandy loam in an area of Mayodan-Exway complex, 2 to 7 percent slopes; 2,900 feet south of the confluence of Rock Creek and the Willis River, 420 feet west of Rock Creek, in a field; Cumberland County, Virginia; lat. 37 degrees 19 minutes 53.50 seconds N. and long. 78 degrees 25 minutes 38 seconds W.

Ap—0 to 5 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and medium roots; many fine and medium tubular pores; 10 percent subrounded metaquartzite gravel; strongly acid; clear wavy boundary.

E—5 to 10 inches; brown (7.5YR 5/4) gravelly sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and medium roots; many fine tubular pores; 25 percent subrounded metaquartzite gravel; strongly acid; clear wavy boundary.

Bt1—10 to 14 inches; strong brown (7.5YR 4/6) clay; many medium faint spherical yellowish red (5YR 5/8) mottles; moderate coarse subangular blocky structure; firm, moderately sticky, moderately plastic; few fine and medium roots; many fine interstitial pores; few faint patchy brown (7.5YR 4/4) clay films on faces of peds; few fine mica flakes; 5 percent subrounded metaquartzite gravel; strongly acid; clear wavy boundary.

Bt2—14 to 21 inches; yellowish red (5YR 4/6) clay; many medium distinct spherical red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots between peds; many fine interstitial pores; few faint discontinuous yellowish red (5YR 4/6) clay films on faces of peds; few fine mica flakes; strongly acid; gradual wavy boundary.

Bt3—21 to 28 inches; yellowish red (5YR 4/6) clay; common fine faint spherical brownish yellow (10YR 6/8) and red (2.5YR 4/8) mottles; moderate coarse subangular blocky structure; firm, moderately sticky, moderately plastic; few fine and medium roots; many fine interstitial pores; few faint patchy yellowish red (5YR 4/6) clay films on faces of peds; few fine mica flakes; strongly acid; clear wavy boundary.

Bt4—28 to 38 inches; reddish yellow (7.5YR 6/6) silty clay loam; few fine prominent dark reddish brown (5YR 2/2), common fine faint yellowish brown (10YR 5/6), and

many fine and medium faint spherical yellowish red (5YR 4/6) mottles; weak coarse subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; many fine interstitial pores; few faint patchy yellowish red (5YR 4/6) clay films on faces of peds; few fine mica flakes; strongly acid; gradual wavy boundary.

BC—38 to 52 inches; yellowish red (5YR 5/6) silty clay loam; few fine faint spherical yellow (10YR 7/8), common fine and medium faint spherical red (2.5YR 4/8), and many medium faint spherical brownish yellow (10YR 6/6) mottles; weak coarse subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; few fine interstitial pores; very few faint patchy yellowish red (5YR 5/6) clay films on faces of peds; few fine mica flakes; very strongly acid; gradual wavy boundary.

C—52 to 62 inches; dark red (2.5YR 3/6) loam; few fine prominent spherical yellow (10YR 7/8) mottles; massive; friable, nonsticky, nonplastic; few fine mica flakes; very strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to hard bedrock: More than 60 inches
Rock fragments: 0 to 15 percent in the A horizon, 0 to 35 percent in the E horizon, and 0 to 5 percent in the B and C horizons
Soil reaction: Typically very strongly acid to moderately acid in the A and E horizons; very strongly acid or strongly acid in the B and C horizons

Ap horizon:
Color—hue of 5YR to 10YR, value of 2 to 6, and chroma of 2 to 8
Texture—sandy loam, fine sandy loam, or loam

E horizon:
Color—hue of 5YR to 10YR, value of 5 to 7, and chroma of 3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA or BE horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 3 to 7, and chroma of 2 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bt horizon:
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 3 to 8
Texture—clay loam, silty clay loam, sandy clay, clay, or silty clay
Redoximorphic features—iron masses in shades of brown, yellow, or red

BC horizon:
Color—hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 2 to 8
Texture—loam, clay loam, or silty clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red

C horizon:
Color—hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 2 to 8
Texture—sandy loam, fine sandy loam, loam, silt loam, clay loam, or silty clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red

Mecklenburg Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Mafic crystalline rock residuum
Drainage class: Well drained

Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope: 2 to 15 percent

Associated Soils

- Cecil soils, which are well drained and have base saturation less than 35 percent at depth
- Enon soils, which are well drained and have yellower subsoils than the Mecklenburg soils
- Poindexter soils, which are well drained and have bedrock within a depth of 20 to 40 inches
- Trenholm soils, which are moderately well drained

Taxonomic Classification

Fine, mixed, active, thermic Ultic Hapludalfs

Typical Pedon

Mecklenburg loam, 2 to 7 percent slopes; 1.4 miles west of the junction of Highways VA-690 and VA-45, about 1,300 feet southeast of the junction of Highways VA-690 and VA-611, about 770 feet east of Highway VA-611, in woodland; Cumberland County, Virginia; lat. 37 degrees 39 minutes 40.40 seconds N. and long. 78 degrees 9 minutes 4.70 seconds W.

A—0 to 4 inches; brown (7.5YR 4/4) loam; weak medium and coarse subangular blocky structure; friable, nonsticky, nonplastic; many fine roots; 10 percent angular quartz gravel; moderately acid; abrupt smooth boundary.

Bt1—4 to 24 inches; yellowish red (5YR 4/6) clay; moderate medium and coarse subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots; common distinct clay films on all faces of peds; many medium distinct black (7.5YR 2.5/1) iron-manganese masses; 5 percent angular quartz gravel; moderately acid; gradual smooth boundary.

Bt2—24 to 39 inches; yellowish red (5YR 5/8) clay; weak medium and coarse subangular blocky structure; friable, moderately sticky, slightly plastic; common distinct clay films on all faces of peds; many fine distinct black (7.5YR 2.5/1) iron-manganese masses; 5 percent angular quartz gravel; moderately acid; gradual smooth boundary.

BC—39 to 50 inches; yellowish red (5YR 5/8) loam; many medium prominent reddish yellow (7.5YR 6/6) mottles; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; many medium distinct (7.5YR 2.5/0) iron-manganese masses; 5 percent angular quartz gravel; moderately acid; abrupt smooth boundary.

C—50 to 65 inches; red (2.5YR 5/6), brownish yellow (10YR 6/6), and reddish yellow (5YR 6/6) loam; massive; friable, slightly sticky, slightly plastic; many medium distinct (7.5YR 2.5/0) iron-manganese masses; 10 percent angular quartz gravel; moderately acid.

Range in Characteristics

Solum thickness: 20 to 58 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 20 percent in the A horizon and 0 to 10 percent in the B and C horizons
Soil reaction: Strongly acid to slightly acid in the A horizon; moderately acid to neutral in the B and C horizons
Mica flakes: None or few in the B and C horizons
Other soil features: None to many manganese concretions occur throughout the profile

A or Ap horizon:
Color—hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 2 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA or BE horizon (if it occurs):
Color—hue of 2.5YR or 5YR, value of 3 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color (upper part)—hue of 2.5YR or 5YR, value of 3 to 6, and chroma of 4 to 8
Color (lower part)—hue of 2.5YR to 5YR, value of 4 to 6, and chroma of 4 to 8
Texture—clay
Non-redoximorphic mottles—in most pedons; shades of brown, yellow, or red

BC horizon:
Color—hue of 2.5YR to 7.5YR, value of 4 to 7, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam
Non-redoximorphic mottles—in most pedons; shades of brown, yellow, white, or red

C horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 8, and chroma of 1 to 8
Texture—sandy loam, loam, sandy clay loam, or clay loam
Non-redoximorphic mottles—in most pedons; shades of brown, yellow, white, or red

Mirerock Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Amphibole-chlorite schist residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope: 2 to 7 percent

Associated Soils

- Jackland soils, which are moderately well drained
- Spriggs soils, which are well drained and have less clay in the subsoil than the Mirerock soils

Taxonomic Classification

Fine, smectitic, mesic Typic Hapludalfs

Typical Pedon

Mirerock loam in an area of Jackland-Mirerock complex, 2 to 7 percent slopes; 1.5 miles north (6 degrees) of the junction of Highways VA-613 and VA-624, about 2.1 miles south (203 degrees) of the junction of Highways VA-600 and US-60; Amherst County, Virginia; lat. 37 degrees 51 minutes 57.50 seconds N. and long. 78 degrees 59 minutes 44.10 seconds W.

A—0 to 1 inch; dark brown (10YR 3/3) loam; moderate fine granular structure; very friable, slightly sticky, slightly plastic; many fine, medium, and coarse roots; strongly acid; clear smooth boundary.
E—1 to 5 inches; light olive brown (2.5Y 5/4) fine sandy loam; moderate fine granular

structure; very friable, slightly sticky, slightly plastic; many fine and medium roots; many fine continuous tubular pores; strongly acid; clear smooth boundary.

Bt—5 to 30 inches; pale brown (10YR 6/3) and yellowish brown (10YR 5/8) silty clay; strong fine and medium subangular blocky structure; firm, very sticky, very plastic; many fine and medium roots; common distinct clay films on all faces of peds; common fine black (10YR 2/1) iron-manganese nodules; strongly acid; clear smooth boundary.

Cr—30 to 60 inches; variegated and multicolored chlorite-amphibole schist bedrock that crushes to loam.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: 20 to 40 inches to soft bedrock; more than 40 inches to hard bedrock
Rock fragments: 0 to 25 percent throughout the profile
Soil reaction: Strongly acid to mildly alkaline throughout the profile
Other features: Few to many black to dark brown nodules, concretions, or soft masses

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 2 to 8
Texture (fine-earth fraction)—loam or silt loam

E horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, or silt loam

Bt horizon:
Color—hue of 7.5YR to 5Y, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—clay loam, silty clay loam, clay, or silty clay

C horizon (if it occurs):
Color—variable; horizon is commonly multicolored in shades of brown, yellow, green, black, and white
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

Cr horizon:
Bedrock—weathered chlorite-amphibole schist that crushes to loam

Monacan Series

Physiographic province: Southern Piedmont, thermic
Landscape: Flood-plain valleys
Parent material: Recent alluvium
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 0 to 2 percent

Associated Soils

- Tuckahoe soils, which are well drained
- Wehadkee soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, active, thermic Fluvaquentic Eutrudepts

Typical Pedon

Monacan silt loam in an area of Chewacla and Monacan soils, 0 to 2 percent slopes,

frequently flooded; on Sabot Island, 0.4 mile south of the junction of Highways VA-6 and VA-644, about 400 feet northeast of the James River, in cropland; Goochland County, Virginia:

Ap—0 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine roots; few very fine distinct iron-manganese concretions; few fine mica flakes; slightly acid; clear smooth boundary.

Bw1—12 to 25 inches; dark yellowish brown (10YR 4/4) silt loam; weak coarse subangular blocky structure; friable, nonsticky, slightly plastic; few fine roots; common fine faint grayish brown (10YR 5/2) iron depletions and light yellowish brown (10YR 6/4) and dark brown (7.5YR 3/2) masses of oxidized iron; common fine distinct black (10YR 2/1) iron-manganese concretions; few wormcasts; few fine mica flakes; slightly acid; clear smooth boundary.

Bw2—25 to 34 inches; dark yellowish brown (10YR 4/4) silt loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common fine faint brown (7.5YR 4/4) masses of oxidized iron and grayish brown (10YR 5/2) iron depletions; few fine distinct black (10YR 2/1) iron-manganese nodules; few fine mica flakes; moderately acid; clear smooth boundary.

Bg—34 to 42 inches; grayish brown (10YR 5/2) silty clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common fine faint dark yellowish brown (10YR 4/4) masses of oxidized iron and gray (10YR 5/1) iron depletions; few fine distinct black (10YR 2/1) iron-manganese nodules; few fine mica flakes; moderately acid; abrupt wavy boundary.

2Bgb—42 to 63 inches; gray (5Y 5/1) clay; weak coarse subangular blocky structure; firm, moderately sticky, slightly plastic; few fine roots; common fine faint dark yellowish brown (10YR 3/4) and yellowish brown (10YR 5/4) masses of oxidized iron; many medium distinct strong brown (7.5YR 5/6) iron-manganese concretions; many fine mica flakes; moderately acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Rock fragments: 0 to 5 percent above a depth of 40 inches and 0 to 35 percent below a depth of 40 inches; gravel
Soil reaction: Strongly acid to neutral throughout the profile
Mica flakes: None to many throughout the profile

A or Ap horizon:
Color—hue of 7.5YR to 10YR, value of 3 to 6, and chroma of 2 to 4
Texture—sandy loam, fine sandy loam, loam, or silt loam

Bw horizon:
Color (upper part)—5YR to 2.5Y, value of 3 to 6, and chroma of 3 or 4
Color (lower part)—5YR to 5Y, value of 4 to 6, and chroma of 1 to 4
Texture—sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of olive or gray

Bg horizon:
Color—horizon is neutral in hue or has hue of 5YR to 2.5Y, has value of 3 to 6, and has chroma of 0 to 2
Texture—sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of olive or gray

Bb horizon (below a depth of 40 inches):
Color—horizon is neutral in hue or has hue of 10YR to 5Y, has value of 5 or 6, and has chroma of 0 to 2
Texture (fine-earth fraction)—clay or silty clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of olive or gray

Cg horizon (if it occurs):
Color—horizon is neutral in hue or has hue of 5YR to 2.5Y, has value of 3 to 6, and has chroma of 0 to 2
Texture (fine-earth fraction)—ranging from sand to clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of olive or gray

Nathalie Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Granite gneiss residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 15 percent

Associated Soils

- Clifford soils, which are well drained and have redder subsoils than the Nathalie soils
- Halifax soils, which are moderately well drained
- Toast soils, which are well drained and have a clayey Bt horizon less than 25 inches thick

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Nathalie sandy loam, 2 to 7 percent slopes; 250 feet west of the junction of Highways VA-644 and VA-645, about 1,220 feet north of Nathalie, Virginia, in a cultivated field; Nathalie VA USGS 7.5-minute topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 52 minutes 43 seconds N. and long. 78 degrees 59 minutes 8 seconds W.

Ap—0 to 9 inches; yellowish brown (10YR 5/4) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and few medium roots; 5 percent angular quartz gravel; slightly acid; abrupt smooth boundary.
BA—9 to 12 inches; strong brown (7.5YR 5/6) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and few medium roots; moderately acid; gradual smooth boundary.
Bt1—12 to 27 inches; strong brown (7.5YR 5/6) clay; common medium distinct brownish yellow (10YR 6/8) and common medium prominent red (2.5YR 5/8) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine and medium roots; common fine discontinuous tubular pores; common distinct continuous clay films on all faces of peds; strongly acid; gradual smooth boundary.
Bt2—27 to 42 inches; brownish yellow (10YR 6/8) clay; many coarse prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine and medium roots; common fine

discontinuous tubular pores; common distinct continuous clay films on all faces of peds; few fine mica flakes; strongly acid; gradual smooth boundary.

BC—42 to 52 inches; yellowish red (5YR 5/6) clay loam; many medium prominent yellow (10YR 7/8) mottles; weak fine and medium subangular blocky structure; firm, slightly sticky, slightly plastic; common fine mica flakes; very strongly acid; gradual smooth boundary.

C—52 to 65 inches; brownish yellow (10YR 6/8) and yellowish red (5YR 5/8) loam; massive; friable, slightly sticky, nonplastic; common fine mica flakes; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 4 to 14 inches
Depth to base of argillic horizon: 35 inches or more
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent in the A, E, and B horizons and 0 to 25 percent in the C horizon; mostly quartz gravel
Soil reaction: Typically very strongly acid or strongly acid throughout the profile; moderately acid or slightly acid in limed areas
Mica content: None to common in the B and C horizons
Other features: Clayey part (more than 35 percent clay) of the argillic horizon extends to a depth of 30 inches or more and is 25 to 60 inches thick

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 6
Texture—coarse sandy loam, sandy loam, fine sandy loam, or loam

E horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y and value and chroma of 4 to 6
Texture—coarse sandy loam, sandy loam, fine sandy loam, or loam

BA or BE horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 4 to 8; hue ranges to 5YR where horizon has few to many non-redoximorphic mottles
Texture—clay loam or clay
Non-redoximorphic mottles (if they occur)—shades of red, brown, yellow, or white

BC horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 7, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam
Non-redoximorphic mottles (if they occur)—shades of red, brown, yellow, or white

C horizon:
Color—hue of 2.5YR to 2.5Y and value and chroma of 4 to 8; horizon commonly does not have a dominant color
Texture (fine-earth fraction)—variable; commonly sandy loam, loam, sandy clay loam, or clay loam saprolite

Oak Level Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Hornblende gneiss residuum
Drainage class: Well drained

Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 25 percent

Associated Soils

- Diana Mills soils, which are well drained, have browner hues than the Oak Level soils, and have bedrock within a depth of 40 to 60 inches
- Rasalo soils, which are well drained, have browner hues than the Oak Level soils, and have a higher shrink-swell potential
- Siloam soils, which are well drained and have bedrock within a depth of 10 to 20 inches
- Spriggs soils, which are well drained, have less clay in the subsoil than the Oak Level soils, and have bedrock within a depth of 20 to 40 inches

Taxonomic Classification

Fine, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Oak Level loam in an area of Oak Level-Diana Mills complex, 2 to 7 percent slopes; 1,000 feet south of the junction of Highways VA-711 and VA-710, about 1,250 feet east of Highway VA-710, in a cultivated field; Cluster Springs VA USGS 7.5-minute topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 39 minutes 18 seconds N. and long. 78 degrees 50 minutes 26 seconds W.

Ap—0 to 8 inches; reddish brown (5YR 4/4) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; 4 percent angular quartz gravel; slightly acid; clear wavy boundary.

Bt1—8 to 18 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; common fine tubular pores; few faint continuous clay films on faces of peds; slightly acid; gradual wavy boundary.

Bt2—18 to 32 inches; red (2.5YR 4/8) clay; few medium prominent strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; common fine tubular pores; few faint continuous clay films on faces of peds; slightly acid; gradual wavy boundary.

Bt3—32 to 42 inches; red (2.5YR 4/8) clay loam; few medium prominent brownish yellow (10YR 6/6) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine tubular pores; few faint patchy clay films on faces of peds; slightly acid; gradual wavy boundary.

BC—42 to 50 inches; yellowish red (5YR 5/8) loam; few medium prominent brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine prominent iron-manganese nodules; slightly acid; gradual wavy boundary.

C—50 to 65 inches; yellowish red (5YR 5/8) loam; few medium prominent brownish yellow (10YR 6/6) mottles; massive; friable, slightly sticky, nonplastic; few fine prominent iron-manganese nodules; slightly acid.

Range in Characteristics

Depth to top of argillic horizon: 4 to 15 inches
Depth to base of argillic horizon: 25 to 50 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 25 percent in the A horizon, 0 to 15 percent in the B horizon, and 0 to 25 percent in the C horizon

Soil reaction: Strongly acid to slightly acid in the A and B horizons; moderately acid to neutral in the BC and C horizons
Mica flakes: None to common in the B and C horizons
Other features: Less than 30 percent silt content in the particle-size control section; none to many manganese concretions occur throughout the profile

A or Ap horizon:
Color—hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 2 to 6
Texture (fine-earth fraction)—fine sandy loam, loam, clay loam, or sandy clay loam

BA or BE horizon (if it occurs):
Color—hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color (upper part)—10R or 2.5YR, value of 3 to 6, and chroma of 4 to 8; hue ranges to 5YR where horizon has few to many non-redoximorphic mottles
Color (lower part)—2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—clay loam or clay
Non-redoximorphic mottles (if they occur)—shades of red, brown, yellow, or white; mostly in the lower part of horizon

BC horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 7, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam
Non-redoximorphic mottles (if they occur)—shades of red, brown, yellow, or white

C horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 8, and chroma of 1 to 8
Texture (fine-earth fraction)—sandy loam, loam, sandy clay loam, or clay loam
Non-redoximorphic mottles (if they occur)—shades of red, brown, yellow, or white

Pacolet Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Granite gneiss residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 15 to 45 percent

Associated Soils

- Cecil soils, which are well drained and have thicker subsoils than the Pacolet soils
- Poindexter soils, which are well drained, have less clay in the subsoil than the Pacolet soils, and have higher base saturation at depth
- Wateree soils, which are well drained and have less clay in the subsoil than the Pacolet soils
- Wedowee soils, which are well drained and have yellower subsoils than the Pacolet soils

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Pacolet sandy clay loam in an area of Pacolet-Wateree complex, 25 to 45 percent

slopes; 1.0 mile west-southwest of the junction of Highways VA-45 and VA-690, about 0.85 mile southeast of the junction of Highways VA-611 and VA-690, about 1,600 feet east of Boston Creek, in woodland; Cumberland County, Virginia; lat. 37 degrees 39 minutes 19.90 seconds N. and long. 78 degrees 8 minutes 34.30 seconds W.

A—0 to 4 inches; brown (10YR 4/3) sandy clay loam; weak medium granular structure; friable, nonsticky, nonplastic; common fine, medium, and coarse roots; 2 percent angular quartz gravel; strongly acid; abrupt smooth boundary.

Bt1—4 to 9 inches; red (2.5YR 4/8) clay; common fine faint yellowish red (5YR 5/8) mottles; moderate coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common fine, medium, and coarse roots; common distinct continuous clay films on all faces of peds; few fine mica flakes; 2 percent angular quartz gravel; moderately acid; clear wavy boundary.

Bt2—9 to 17 inches; red (2.5YR 4/6) clay; common fine faint yellowish red (5YR 5/8) mottles; moderate coarse subangular blocky structure; friable, slightly sticky, nonplastic; common fine and medium roots; common distinct continuous clay films on all faces of peds; common fine and medium mica flakes; 2 percent angular quartz gravel; moderately acid; clear wavy boundary.

BC—17 to 26 inches; yellowish red (5YR 5/6) and red (2.5YR 4/8) sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; few faint patchy clay films on all faces of peds; many fine mica flakes; 5 percent angular quartz gravel; strongly acid; gradual wavy boundary.

C—26 to 61 inches; yellowish red (5YR 5/8) sandy loam; many coarse prominent light yellowish brown (10YR 6/4) mottles; massive; very friable, nonsticky, nonplastic; few fine roots; many fine mica flakes; very strongly acid.

Range in Characteristics

Thickness of argillic horizon: Typically 12 inches; extending to a depth of 18 to 30 inches

Depth to bedrock: More than 60 inches

Rock fragments: 0 to 25 percent in the A and E horizons and 0 to 15 percent in the B and C horizons; dominantly quartz gravel

Soil reaction: Very strongly acid to slightly acid in the A and E horizons; very strongly acid to moderately acid in the B and C horizons

Mica flakes: None to common in the A, E, and B horizons; few to many in the C horizon

A or Ap horizon:

Color—hue of 5YR to 10YR, value of 3 to 5, and chroma of 1 to 6; where horizon is eroded, hue ranges to 2.5YR and chroma ranges to 8

Texture (fine-earth fraction)—typically sandy loam, fine sandy loam, or loam; sandy clay loam occurs in eroded areas

E horizon (if it occurs):

Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 8

Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA or BE horizon (if it occurs):

Color—hue of 2.5YR to 10YR, value of 4 or 5, and chroma of 3 to 8

Texture—loam, sandy clay loam, or clay loam

Bt horizon:

Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 to 8

Texture—clay loam, sandy clay, or clay

Non-redoximorphic mottles (if they occur)—shades of red, yellow, or brown; in the upper part of horizon in some pedons and in the lower part of horizon in most pedons

BC horizon:
Color—hue of 10R to 5YR, value of 4 or 5, and chroma of 6 to 8
Texture—sandy loam, loam, sandy clay loam, or clay loam
Non-redoximorphic mottles (if they occur)—shades of red, yellow, or brown

C horizon:
Color—hue of 10R to 5YR, value of 4 or 5, and chroma of 6 to 8
Texture—sandy loam, loam, sandy clay loam, or clay loam saprolite weathered from felsic crystalline rock
Non-redoximorphic mottles (if they occur)—masses of saprolite in shf ades of red, brown, or yellow

Pinoka Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Triassic sandstone and siltstone residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Moderately deep
Slope: 2 to 25 percent

Associated Soils

- Brickhaven soils, which are moderately well drained, have more clay in the subsoil than the Pinoka soils, and have bedrock within a depth of 40 to 60 inches
- Carbonton soils, which are somewhat poorly drained and have more clay in the subsoil than the Pinoka soils
- Mayodan soils, which are well drained, have more clay in the subsoil than the Pinoka soils, and have bedrock at a depth of more than 60 inches

Taxonomic Classification

Fine-loamy, mixed, subactive, thermic Typic Hapludults

Typical Pedon

Pinoka gravelly fine sandy loam in an area of Pinoka-Carbonton complex, 7 to 15 percent slopes; 9.0 miles east of Mount Gilead on North Carolina Highway 731 to Secondary Road 1563, about 2.1 miles northeast on Secondary Road 1563 to an unnumbered U.S. Forest Service road, 0.6 mile south and east on the unnumbered U.S. Forest Service road, 20 feet south of the road, in a loblolly pine plantation; Montgomery County, North Carolina; lat. 35 degrees 13 minutes 32.50 seconds N. and long. 79 degrees 49 minutes 43.20 seconds W.

A—0 to 10 inches; brown (10YR 4/3) gravelly fine sandy loam; weak medium granular structure; very friable, nonsticky, nonplastic; many fine and medium and common coarse roots; 20 percent angular sandstone gravel; very strongly acid; clear smooth boundary.
E—10 to 18 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; very friable, nonsticky, nonplastic; many fine and medium roots; 10 percent angular sandstone gravel; very strongly acid; clear smooth boundary.
Bt—18 to 27 inches; reddish brown (5YR 4/4) loam; weak fine subangular blocky structure; friable, nonsticky, slightly plastic; many fine and medium roots; few faint patchy clay films on all faces of peds; 1 percent angular sandstone gravel; very strongly acid; gradual wavy boundary.

Cr—27 to 80 inches; highly weathered, moderately fractured Triassic sandstone bedrock with strata of Triassic siltstone bedrock; can be dug with difficulty with hand tools.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: 20 to 40 inches to weathered bedrock; 40 to 60 inches or more to unweathered bedrock
Rock fragments: 15 to 35 percent in the A horizon and 0 to 35 percent in the B and C horizons; mostly Triassic sandstone gravel
Soil reaction: Typically extremely acid to strongly acid throughout the profile; moderately acid or slightly acid in limed areas
Mica flakes: None or few throughout the profile

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 1 to 6
Texture (fine-earth fraction)—sandy loam or fine sandy loam

E horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 2 to 6
Texture (fine-earth fraction)—sandy loam or fine sandy loam

BE horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, or silt loam

Bt horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam
Non-redoximorphic mottles (if they occur)—shades of red, yellow, or brown

BC horizon (if it occurs):
Color—hue of 10R to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, silt loam, or sandy clay loam
Non-redoximorphic mottles (if they occur)—shades of red, yellow, or brown

C horizon (if it occurs):
Color—hue of 10R to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, loam, or silt loam saprolite
Non-redoximorphic mottles (if they occur)—shades of red, yellow, or brown

Cr horizon:
Bedrock—weathered, highly fractured Triassic sandstone bedrock that has strata of siltstone or mudstone in some areas

R horizon (if it occurs):
Bedrock—unweathered, slightly fractured Triassic sandstone bedrock

Poindexter Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Granodiorite residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high

Depth class: Moderately deep
Slope: 2 to 60 percent

Associated Soils

- Enon soils, which are well drained and have more clay in the subsoil than the Poindexter soils
- Trenholm soils, which are moderately well drained
- Wedowee soils, which are well drained, have more clay in the subsoil than the Poindexter soils, and have a lower base saturation at depth

Taxonomic Classification

Fine-loamy, mixed, active, thermic Typic Hapludalfs

Typical Pedon

Poindexter sandy loam in an area of Poindexter-Wedowee complex, 7 to 15 percent slopes; 700 feet east from a point on Woodhaven Trail that is 1.7 miles south of the junction of Woodhaven Trail and Highway VA-45, in woodland; Cumberland County, Virginia; lat. 37 degrees 26 minutes 0.50 second N. and long. 78 degrees 17 minutes 8 seconds W.

A—0 to 3 inches; dark yellowish brown (10YR 4/4) sandy loam; weak medium granular structure; very friable, slightly sticky, nonplastic; many fine roots; 5 percent angular quartz gravel and 5 percent angular diorite channers; strongly acid; abrupt wavy boundary.

E—3 to 7 inches; brownish yellow (10YR 6/6) sandy loam; weak fine granular structure; very friable, slightly sticky, nonplastic; many fine roots; common fine mica flakes; 3 percent angular diorite channers and 7 percent angular quartz gravel; strongly acid; clear wavy boundary.

Bt1—7 to 15 inches; reddish yellow (7.5YR 6/6) sandy clay loam; many fine faint yellowish brown (10YR 5/6) mottles; weak coarse subangular blocky structure; friable, slightly sticky, moderately plastic; few fine roots; few faint discontinuous clay films on all faces of peds; common fine mica flakes; strongly acid; clear wavy boundary.

Bt2—15 to 28 inches; strong brown (7.5YR 5/6) clay loam; few fine distinct yellowish red (5YR 5/8) and yellowish brown (10YR 5/6) mottles; weak coarse subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots; few faint discontinuous clay films on all faces of peds; many fine mica flakes; strongly acid; clear wavy boundary.

C—28 to 39 inches; reddish yellow (7.5YR 6/6), yellowish red (5YR 5/6), and strong brown (7.5YR 5/6) sandy clay loam; common fine distinct dark yellowish brown (10YR 4/4) mottles; weak coarse platy structure; friable, slightly sticky, slightly plastic; few fine roots; many fine black (10YR 2/1) and common fine white (10YR 8/1) mica flakes; 1 percent angular quartz-diorite gravel and 1 percent angular diorite channers; strongly acid; clear wavy boundary.

Cr—39 to 62 inches; yellowish brown (10YR 5/8) granodiorite bedrock; massive; firm, nonsticky, nonplastic; many fine dark brown (10YR 3/3) mica flakes; moderately acid.

Range in Characteristics

Solum thickness: 14 to 40 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches or more
Rock fragments: 0 to 20 percent gravel and channers throughout the profile
Soil reaction: Very strongly acid to neutral throughout the profile

A horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 4
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

E horizon:
Color—hue of 7.5YR or 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA or BE horizon (if it occurs):
Color—hue of 5YR or 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bt horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red

BC horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam
Redoximorphic features—iron masses in shades of brown, yellow, or red

C horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, or sandy clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red

Cr horizon:
Bedrock—weathered basic rocks that are moderately to very highly fractured

R horizon (if it occurs):
Bedrock—unweathered basic rocks that are very slightly to moderately fractured

Rasalo Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Hornblende gneiss residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 45 percent

Associated Soils

- Halifax soils, which are moderately well drained
- Jackland soils, which are moderately well drained and have smectitic mineralogy
- Siloam soils, which are well drained, have less clay in the subsoil than the Rasalo soils, and have bedrock within a depth of 10 to 20 inches
- Spriggs soils, which are well drained, have less clay in the subsoil than the Rasalo soils, and have bedrock within a depth of 20 to 40 inches

Taxonomic Classification

Fine, mixed, superactive, mesic Ultic Hapludalfs

Typical Pedon

Rasalo sandy loam in an area of Rasalo-Halifax complex, 2 to 7 percent slopes; 0.56

mile east on Highway VA-809 from its junction with Highway VA-708, about 1,600 feet north of Highway VA-809, in a cutover area; South Boston VA USGS 7.5-minute topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 38 minutes 39 seconds N. and long. 78 degrees 58 minutes 40 seconds W.

A—0 to 6 inches; yellowish brown (10YR 5/6) sandy loam; moderate fine and medium granular structure; very friable, nonsticky, nonplastic; few fine and medium roots; strongly acid; abrupt smooth boundary.

Bt1—6 to 20 inches; brownish yellow (10YR 6/6) clay; strong medium angular blocky structure; very firm, very sticky, very plastic; few fine roots; few fine discontinuous tubular pores; few distinct continuous clay films on all faces of peds; slightly acid; abrupt smooth boundary.

Bt2—20 to 30 inches; brownish yellow (10YR 6/8) sandy clay loam; weak medium subangular blocky structure; firm, slightly sticky, nonplastic; few distinct continuous clay films on all faces of peds; few fine mica flakes; slightly acid; gradual wavy boundary.

C—30 to 65 inches; black (10YR 2/1), olive brown (2.5Y 4/4), and brownish yellow (10YR 6/6) sandy loam; massive; friable; few fine mica flakes; slightly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent throughout the profile
Soil reaction: Strongly acid to slightly acid throughout the profile
Mica flakes: None to common throughout the profile

A or Ap horizon:
Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 2 to 6
Texture—sandy loam or loam

E horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 6
Texture—sandy loam or loam

BA or BE horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy clay loam, clay loam, or clay

BC horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

C horizon:
Color—hue of 5YR to 10YR, value of 2 to 8, and chroma of 1 to 8
Texture—loam or sandy loam

Riverview Series

Physiographic province: Southern Piedmont, thermic
Landscape: Flood-plain valleys
Parent material: Recent alluvium
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high

Depth class: Very deep
Slope: 0 to 2 percent

Associated Soils

- Chewacla soils, which are somewhat poorly drained
- Toccoa soils, which are moderately well drained and have less clay in the subsoil than the Riverview soils
- Wehadkee soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, active, thermic Fluventic Dystrudepts

Typical Pedon

Riverview loam in an area of Riverview and Tuckahoe soils, 0 to 2 percent slopes, occasionally flooded; 0.46 mile south-southeast of the confluence of Angola Creek and the Appomattox River, 880 feet west of the easternmost point of the river; Cumberland County, Virginia; lat. 37 degrees 22 minutes 12.50 seconds N. and long. 78 degrees 14 minutes 12 seconds W.

Ap—0 to 10 inches; dark yellowish brown (10YR 4/4) loam; weak coarse granular structure; friable, nonsticky, nonplastic; many fine roots; few fine mica flakes; slightly acid; abrupt smooth boundary.

Bw1—10 to 13 inches; brown (10YR 5/3) loam; common fine faint yellowish brown (10YR 5/4) mottles; weak medium subangular blocky structure; friable, nonsticky, nonplastic; many fine roots; few fine mica flakes; slightly acid; abrupt wavy boundary.

Bw2—13 to 18 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable, slightly sticky, nonplastic; many fine roots; few fine mica flakes; slightly acid; clear wavy boundary.

Bw3—18 to 30 inches; strong brown (7.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; few fine mica flakes; moderately acid; clear wavy boundary.

Bw4—30 to 50 inches; strong brown (7.5YR 4/6) sandy loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; few fine roots; common fine mica flakes; moderately acid; clear wavy boundary.

C1—50 to 53 inches; strong brown (7.5YR 4/6) sandy loam; massive; friable, nonsticky, nonplastic; few fine roots; common fine mica flakes; moderately acid; clear wavy boundary.

C2—53 to 61 inches; strong brown (7.5YR 4/6) sandy loam; massive; friable, nonsticky, nonplastic; few fine roots; few medium faint grayish brown (10YR 5/2) masses of reduced iron; many fine mica flakes; moderately acid.

Range in Characteristics

Solum thickness: 24 to 60 inches
Depth to bedrock: More than 60 inches
Soil reaction: Very strongly acid to slightly acid in the A horizon; very strongly acid to moderately acid in the B and C horizons
Mica flakes: None to common throughout the profile

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 6; where horizon has value of 3 and chroma of 2, it is less than 7 inches thick
Texture—sandy loam, fine sandy loam, loam, or silt loam

Ab horizon (if it occurs; below a depth of 25 inches):
Color—hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 2 to 6

Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam

Bw horizon:
Color—7.5YR or 10YR, value of 3 to 6, and chroma of 3 to 8; a subhorizon with hue of 5YR, value of 4 or 5, and chroma of 3 or 4 occurs in some pedons
Texture—fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam
Redoximorphic features—iron masses in shades of yellow, brown, or red and iron depletions (below a depth of 24 inches) in shades of olive or gray

Bb horizon (if it occurs; below a depth of 25 inches):
Color—5YR to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture—fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam
Redoximorphic features—iron masses in shades of yellow, brown, or red and iron depletions in shades of olive or gray

BC horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 6
Texture—sandy loam, fine sandy loam, loam, or sandy clay loam
Redoximorphic features—iron masses in shades of yellow, brown, or red and iron depletions in shades of olive or gray

C horizon:
Color—hue of 7.5YR or 10YR and value and chroma of 4 to 8
Texture—sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam
Redoximorphic features—iron masses in shades of yellow, brown, or red and iron depletions in shades of olive or gray

Siloam Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Greenstone residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Shallow
Slope: 7 to 25 percent

Associated Soils

- Diana Mills soils, which are well drained and have bedrock between depths of 40 and 60 inches
- Oak Level soils, which are well drained and have bedrock at a depth of more than 60 inches
- Rasalo soils, which are well drained, have a high shrink-swell potential, and have bedrock at a depth of more than 60 inches
- Spriggs soils, which are well drained, have less clay in the subsoil than the Siloam soils, and have bedrock between depths of 20 and 40 inches

Taxonomic Classification

Loamy, mixed, superactive, mesic, shallow Typic Hapludalfs

Typical Pedon

Siloam fine sandy loam in an area of Oak Level-Siloam complex, 7 to 15 percent

slopes; 1.3 miles north-northwest of Siloam, 0.8 mile southeast of the junction of Secondary Roads 1003 and 2085 on Secondary Road 1003, about 0.6 mile east of Secondary Road 1003, in fescue hayland; Siloam NC USGS 7.5-minute topographic quadrangle; Surry County, North Carolina; lat. 36 degrees 18 minutes 10.50 seconds N. and long. 80 degrees 34 minutes 18.20 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 3/4) fine sandy loamy; weak medium granular structure; friable, nonsticky, nonplastic; many fine roots; common fine tubular pores; common fine mica flakes; 15 percent coarse distinct dark yellowish brown (10YR 4/4) bodies of B horizon material; 10 percent angular quartz gravel; neutral; clear wavy boundary.

Bt—8 to 13 inches; dark yellowish brown (10YR 4/6) sandy clay loam; moderate coarse angular blocky structure; friable, moderately sticky, moderately plastic; common fine roots; few fine tubular pores; few distinct discontinuous yellowish brown (10YR 5/4) clay films on vertical faces of peds; common fine distinct irregular yellowish brown (10YR 5/8) masses of oxidized iron between peds; common fine mica flakes; 15 percent discontinuous distinct dark brown (10YR 3/3) fillings of Ap horizon material in old root channels and between peds; 5 percent angular gneiss gravel and 5 percent angular quartz gravel; neutral; clear irregular boundary.

Bt/C—13 to 15 inches; dark yellowish brown (10YR 4/6) sandy clay loam; moderate coarse angular blocky structure that parts along relict rock fractures; friable, moderately sticky, moderately plastic; common fine roots; few fine tubular pores; few distinct discontinuous yellowish brown (10YR 5/4) clay films on vertical faces of peds; common fine distinct irregular yellowish brown (10YR 5/8) masses of oxidized iron between peds; common fine mica flakes; 15 percent discontinuous distinct dark brown (10YR 3/3) fillings of Ap horizon material in old root channels and between peds; 20 percent pockets of massive, friable green, brown, gray, white, and black loamy saprolite (C part); 5 percent angular gneiss gravel and 5 percent angular quartz gravel; neutral; abrupt irregular boundary.

Cr—15 to 26 inches; weakly cemented greenstone bedrock; abrupt irregular boundary.

R—26 to 36 inches; very strongly cemented greenstone bedrock.

Range in Characteristics

Depth to top of argillic horizon: 1 to 10 inches
Depth to base of argillic horizon: 10 to 20 inches
Depth to bedrock: 10 to 20 inches to soft bedrock; 20 to 40 inches to hard bedrock
Rock fragments: 0 to 35 percent throughout the profile; mostly quartz or gneiss gravel, cobbles, and stones
Soil reaction: Strongly acid to slightly acid in the A and E horizons and in the upper part of the B horizon (but neutral in limed areas); moderately acid to slightly alkaline in the lower part of the B horizon and in the C horizon
Mica flakes: None to common throughout the profile
Other features: None to common dark manganese concretions or nodules throughout the profile

Ap or A horizon:
Color—hue of 7.5YR to 5Y, value of 3 to 5, and chroma of 2 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

E horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

Bt horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8

Texture (fine-earth fraction)—loam, sandy clay loam, clay loam, or clay
Non-redoximorphic mottles (if they occur)—masses in shades of black, green, gray, or white; mostly saprolite

Bt/C horizon:
Bt part—same properties as Bt horizon
C part—same properties as C horizon

C horizon (if it occurs):
Color—horizon has hue of 5YR to 5Y, value of 4 to 6, and chroma of 4 to 8, or it is variegated in shades of these colors
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam saprolite

C/Bt horizon (if it occurs):
C part—same properties as C horizon
Bt part—same properties as Bt horizon
Note—some pedons have seams of clayey material filling relict rock fractures and old root channels

Cr horizon:
Bedrock kind—intermediate or mafic crystalline rock or igneous rock
Bedrock hardness—extremely weakly cemented to moderately cemented
Fracture interval—more than 4 inches
Excavation difficulty—low to high

R horizon:
Bedrock kind—intermediate or mafic crystalline rock or igneous rock
Bedrock hardness—strongly cemented to indurated
Fracture interval—more than 4 inches
Excavation difficulty—very high or extremely high

Sindion Series

Physiographic province: Southern Piedmont, mesic
Landscape: Flood-plain valleys
Parent material: Recent alluvium
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 0 to 2 percent

Associated Soils

- Speedwell soils, which are well drained

Taxonomic Classification

Fine-loamy, mixed, active, mesic Fluvaquentic Hapludolls

Typical Pedon

Sindion silt loam, 0 to 2 percent slopes, occasionally flooded; 1.6 miles northeast (52 degrees) of the junction of Highways VA-605 and VA-606, about 1,350 feet east (95 degrees) of the junction of Mallory's Creek and the James River, in a pasture; Buckingham County, Virginia; lat. 37 degrees 38 minutes 13.20 seconds N. and long. 78 degrees 46 minutes 24.60 seconds W.

Ap—0 to 14 inches; dark brown (10YR 3/3) loam, dark yellowish brown (10YR 4/4) dry; weak fine granular structure; friable, slightly sticky, nonplastic; many fine and medium roots; few fine mica flakes; neutral; clear smooth boundary.

Bw1—14 to 30 inches; dark yellowish brown (10YR 3/4) loam; weak fine subangular blocky structure; friable, slightly sticky, nonplastic; many fine roots; common medium faint dark grayish brown (10YR 4/2 moist) iron depletions in matrix; few fine mica flakes; neutral; clear smooth boundary.
Bw2—30 to 46 inches; brown (10YR 4/3) loam; weak fine subangular blocky structure; friable, slightly sticky, nonplastic; common medium distinct dark grayish brown (10YR 4/2) iron depletions in matrix and common fine faint dark yellowish brown (10YR 4/6) masses of oxidized iron in matrix; few fine mica flakes; slightly acid; clear smooth boundary.
Bw3—46 to 61 inches; dark yellowish brown (10YR 4/6), brown (10YR 4/3), and dark grayish brown (10YR 4/2) loam; weak fine subangular blocky structure; friable, slightly sticky, nonplastic; few fine mica flakes; slightly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches or more
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent in the A and B horizons; 0 to 60 percent in the C horizon
Soil reaction: Slightly acid to moderately alkaline
Mica flakes: Few or common
Concretions: Few or common in some pedons

A or Ap horizon:
Color—hue of 7.5YR or 10YR and value and chroma of 2 or 3
Texture—loam or silt loam

Bw horizon:
Color—hue of 7.5YR, 10YR, 2.5Y, or 5Y, value of 2 to 7, and chroma of 1 to 6
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam
Redoximorphic features (within a depth of 24 inches)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

Bg horizon (if it occurs):
Color—horizon is neutral in hue or has hue of 7.5YR to 5Y, has value of 4 to 7, and has chroma of 0 to 2
Texture (fine-earth fraction)—loam, silt loam, clay loam, or silty clay loam
Redoximorphic features (within a depth of 24 inches)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

C or Cg horizon (if it occurs):
Color—horizon is neutral in hue or has hue of 7.5YR to 5Y, has value of 2 to 7, and has chroma of 0 to 4
Texture (fine-earth fraction)—sandy loam, loam, silt loam, clay loam, or silty clay loam; commonly stratified
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

Speedwell Series

Physiographic province: Southern Piedmont, mesic
Landscape: Flood-plain valleys
Parent material: Recent alluvium of limestone, sandstone, and shale
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high

Depth class: Very deep
Slope: 0 to 2 percent

Associated Soils

- Sindion soils, which are moderately well drained

Taxonomic Classification

Fine-loamy, mixed, active, mesic Fluventic Hapludolls

Typical Pedon

Speedwell loam, 0 to 2 percent slopes, occasionally flooded; 1.5 miles north from the junction of the southern bank of the James River and Highway VA-56, about 1.3 miles west-northwest (285 degrees) of the junction of Highways VA-604 and VA-664, in pasture; Buckingham County, Virginia; lat. 37 degrees 39 minutes 23.20 seconds N. and long. 78 degrees 42 minutes 55.10 seconds W.

Ap—0 to 13 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 4/3) dry; moderate medium granular structure; friable, slightly sticky, slightly plastic; few fine and medium roots; common fine mica flakes; neutral; abrupt smooth boundary.
Bw1—13 to 37 inches; brown (10YR 4/3) loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; common fine mica flakes; neutral; clear smooth boundary.
Bw2—37 to 65 inches; dark yellowish brown (10YR 4/4) loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common fine mica flakes; neutral.

Range in Characteristics

Solum thickness: 30 to 60 inches or more
Depth to bedrock: More than 60 inches
Soil reaction: Slightly acid to moderately alkaline throughout the profile
Mica flakes: Few or common throughout the profile

A or Ap horizon:
Color—hue of 7.5YR or 10YR and value and chroma of 2 or 3
Texture—sandy loam, fine sandy loam, loam, or silt loam

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6; in some pedons the upper part of horizon has value of 2 or 3 and chroma of 2 to 4
Texture—loam, silt loam, sandy clay loam, clay loam, or silty clay loam

C horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 to 6
Texture—coarse sandy loam, sandy loam, loam, silt loam, sandy clay loam, or clay loam; horizon is commonly stratified

Spriggs Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Hornblende gneiss residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope: 2 to 60 percent

Associated Soils

- Oak Level soils, which are well drained, have more clay in the subsoil than the Spriggs soils, and have bedrock at a depth of more than 60 inches
- Rasalo soils, which are well drained, have more clay in the subsoil than the Spriggs soils, have smectitic mineralogy, and have bedrock at a depth of more than 60 inches
- Siloam soils, which are well drained and have bedrock between depths of 10 and 20 inches
- Toast soils, which are well drained, have more clay in the subsoil than the Spriggs soils, have lower base saturation at depth, and have bedrock at a depth of more than 60 inches

Taxonomic Classification

Fine-loamy, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Spriggs sandy loam in an area of Spriggs-Toast complex, 25 to 60 percent slopes; 0.57 mile east on Highway VA-809 from its junction with Highway VA-708, about 1,700 feet north of Highway VA-809, in a cutover area; South Boston VA USGS 7.5-minute topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 38 minutes 39 seconds N. and long. 78 degrees 58 minutes 40 seconds W.

A—0 to 4 inches; brown (10YR 4/3) sandy loam; moderate fine granular structure; very friable, nonsticky, nonplastic; common very fine, fine, and medium roots; few fine mica flakes; slightly acid; clear smooth boundary.

E—4 to 9 inches; light yellowish brown (10YR 6/4) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine and fine roots; few fine mica flakes; slightly acid; clear smooth boundary.

Bt1—9 to 15 inches; brownish yellow (10YR 6/6) sandy clay loam; moderate fine and medium subangular blocky structure; firm, slightly sticky, slightly plastic; common very fine and fine roots; few faint continuous clay films on all faces of peds; few fine mica flakes; slightly acid; gradual wavy boundary.

Bt2—15 to 38 inches; brownish yellow (10YR 6/6) sandy clay loam; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; common fine roots; few faint continuous clay films on all faces of peds; common fine mica flakes; slightly acid; gradual wavy boundary.

Cr—38 to 59 inches; weathered hornblende gneiss bedrock.

Range in Characteristics

Depth to top of argillic horizon: 4 to 15 inches
Depth to bottom of argillic horizon: 20 to 40 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches or more
Rock fragments: 0 to 5 percent quartz or gneiss gravel throughout the profile
Soil reaction: Typically very strongly acid to moderately acid throughout the profile; slightly acid in limed areas

A horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 or 4, and chroma of 2 to 4
Texture—sandy loam or loam

E horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 6
Texture—sandy loam or loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 5 or 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

C horizon (if it occurs):
Color—hue of 2.5YR to 2.5Y, value of 4 to 8, and chroma of 1 to 8
Texture—saprolite that crushes to sandy loam or loam

Cr horizon:
Bedrock—highly weathered mafic crystalline rock

State Series

Physiographic province: Southern Piedmont, thermic
Landscape: Stream terrace valleys
Parent material: Alluvium
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 7 percent

Associated Soils

- Chewacla soils, which are somewhat poorly drained
- Dogue soils, which are moderately well drained and have more clay in the subsoil than the State soils
- Riverview soils, which are well drained and have a subsoil that is less developed than that of the State soils

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

State fine sandy loam, 2 to 7 percent slopes, rarely flooded; 1,300 feet south of the northernmost point of the Appomattox River that is near the north end of Highway VA-651, in cropland; Amelia County, Virginia:

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine roots; few very fine mica flakes; strongly acid; abrupt smooth boundary.
BA—8 to 14 inches; strong brown (7.5YR 5/6) loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; many fine roots; few very fine mica flakes; strongly acid; clear wavy boundary.
Bt1—14 to 27 inches; strong brown (7.5YR 5/8) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; few distinct clay films on all faces of peds; few fine mica flakes; strongly acid; gradual wavy boundary.
Bt2—27 to 40 inches; strong brown (7.5YR 5/6) clay loam; common fine faint yellowish brown (10YR 5/6) mottles; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few faint clay films on all faces of peds; few fine mica flakes; strongly acid; gradual wavy boundary.
BC—40 to 48 inches; brownish yellow (10YR 6/6 and 6/8) and light yellowish brown (10YR 6/4) loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine mica flakes; strongly acid; gradual wavy boundary.
C—48 to 65 inches; light yellowish brown (10YR 6/4) and brownish yellow (10YR 6/8

and 6/6) fine sandy loam; massive; very friable, nonsticky, nonplastic; few fine mica flakes; strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches or more
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent quartz gravel throughout the profile
Soil reaction: Extremely acid to strongly acid in the A and E horizons and in the upper part of the B horizon (moderately acid or slightly acid in limed areas); extremely acid to slightly acid in the lower part of the B horizon and in the C horizon
Mica flakes: None to common throughout the profile

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 4; where horizon has value of 3, it is less than 6 inches thick
Texture—loamy sand, sandy loam, fine sandy loam, or loam

E horizon (if it occurs):
Color—hue of 7.5YR or 10YR and value and chroma of 3 to 8
Texture—loamy sand, sandy loam, fine sandy loam, or loam

BA or BE horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, loam, or sandy clay loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8; a subhorizon with hue of 5YR occurs in some pedons
Texture—loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of yellow, brown, or red and iron depletions (below a depth of 40 inches) in shades of brown, olive, or gray

BC horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, loam, or sandy clay loam
Redoximorphic features—iron masses in shades of yellow, brown, or red and iron depletions in shades of brown, olive, or gray

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 2 to 8
Texture—sand, loamy sand, sandy loam, or fine sandy loam
Redoximorphic features—iron masses in shades of yellow, brown, or red and iron depletions in shades of brown, olive, or gray

Toast Series

Physiographic province: Southern Piedmont, mesic
Landscape: Uplands
Parent material: Granite gneiss residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 60 percent

Associated Soils

- Devotion soils, which are well drained and have less clay in the subsoil than the Toast soils

- Fairview soils, which are well drained and have redder subsoils than the Toast soils
- Halifax soils, which are moderately well drained
- Nathalie soils, which are well drained and have thicker subsoils than the Toast soils
- Spriggs soils, which are well drained, have less clay in the subsoil than the Toast soils, and have higher base saturation at depth

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Toast sandy loam in an area of Spriggs-Toast complex, 15 to 25 percent slopes; 2,500 feet south on Highway VA-848 from its junction with Highway VA-682, on the east side of Highway VA-848, in mixed woodland; South Boston VA USGS 7.5-minute topographic quadrangle; Halifax County, Virginia; lat. 36 degrees 42 minutes 32 seconds N. and long. 78 degrees 53 minutes 39 seconds W.

A—0 to 6 inches; yellowish brown (10YR 5/4) sandy loam; moderate fine granular structure; very friable, nonsticky, nonplastic; few fine and medium roots; slightly acid; clear smooth boundary.

E—6 to 12 inches; light yellowish brown (10YR 6/4) sandy loam; moderate fine granular structure; very friable, slightly sticky, nonplastic; many fine and medium roots; strongly acid; clear smooth boundary.

Bt—12 to 29 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; common prominent continuous clay films on all faces of peds; few fine mica flakes; very strongly acid; gradual wavy boundary.

BCt—29 to 38 inches; strong brown (7.5YR 5/8) sandy clay loam; weak fine subangular blocky structure; firm, slightly sticky, slightly plastic; few faint continuous clay films on all faces of peds; common fine mica flakes; very strongly acid; gradual wavy boundary.

C—38 to 62 inches; brownish yellow (10YR 6/6) sandy loam; massive; friable, nonsticky, nonplastic; common medium and coarse mica flakes; strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 1 to 15 inches
Depth to base of argillic horizon: 15 to 30 inches or more
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent throughout the profile; mostly quartz gravel
Soil reaction: Typically extremely acid to strongly acid; moderately acid or slightly acid in limed areas
Mica flakes: None to common in the A and E horizons and in the upper part of the B horizon; none to many in the lower part of the B horizon and in the C horizon
Other features: Clayey part (more than 35 percent clay) of the argillic horizon extends to a depth of less than 30 inches and is less than 25 inches thick

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 8
Texture—coarse sandy loam, sandy loam, or loam

E horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—coarse sandy loam, sandy loam, or loam

BA or BE horizon (it it occurs):
Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8; in some pedons horizon has hue of 5YR or 2.5YR (this makes up less than 50 percent of the matrix)
Texture—sandy clay loam, clay loam, sandy clay, or clay
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of red, brown, or yellow

BC, BCt, or CB horizon:
Color—hue of 5YR to 10YR, value of 4 to 7, and chroma of 4 to 8; horizon has hue of 2.5YR in some pedons
Texture—loam, sandy clay loam, clay loam, or sandy clay
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of red, brown, or yellow

C horizon:
Color—hue of 5YR to 10YR, value of 5 or 6, and chroma of 4 to 8
Texture—loamy sand, loamy coarse sand, sandy loam, coarse sandy loam, loam, or sandy clay loam saprolite
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of red, brown, or yellow

Toccoa Series

Physiographic province: Southern Piedmont, thermic
Landscape: Flood-plain valleys
Parent material: Recent alluvium
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope: 0 to 2 percent

Associated Soils

- Chewacla soils, which are somewhat poorly drained and have more clay in the subsoil and substratum than the Toccoa soils
- Riverview soils, which are well drained and have more clay in the subsoil and substratum than the Toccoa soils

Taxonomic Classification

Coarse-loamy, mixed, active, nonacid, thermic Typic Udifluvents

Typical Pedon

Toccoa fine sandy loam, 0 to 2 percent slopes, frequently flooded; 4.8 miles west of Bracey, Virginia, 1.6 miles southwest of the junction of Highways VA-615 and US-1, about 1.1 miles southwest of Highway VA-615, in a cultivated field; Brunswick County, Virginia; lat. 36 degrees 36 minutes 22.30 seconds N. and long. 78 degrees 14 minutes 34.30 seconds W.

Ap—0 to 12 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine and medium granular structure; very friable, nonsticky, nonplastic; many very fine and fine roots; many very fine irregular pores; few fine mica flakes; slightly acid; clear smooth boundary.
C1—12 to 41 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; few very fine and fine roots;

many very fine and fine irregular pores; few fine mica flakes; moderately acid; clear smooth boundary.

C2—41 to 47 inches; dark yellowish brown (10YR 4/4) loam; massive; very friable, slightly sticky, slightly plastic; few very fine roots; many very fine and fine irregular pores; few fine distinct strong brown (7.5YR 5/6) masses of oxidized iron and very pale brown (10YR 7/3) iron depletions; few fine mica flakes; moderately acid; clear wavy boundary.

C3—47 to 55 inches; dark yellowish brown (10YR 4/4) fine sandy loam; massive; very friable, nonsticky, nonplastic; common very fine irregular pores; few fine distinct very pale brown (10YR 7/3) iron depletions and strong brown (7.5YR 5/6) masses of oxidized iron; few fine mica flakes; moderately acid; clear wavy boundary.

C4—55 to 62 inches; dark yellowish brown (10YR 4/4) loam; massive; very friable, slightly sticky, slightly plastic; few very fine irregular pores; few fine distinct very pale brown (10YR 7/3) iron depletions and yellowish brown (10YR 5/6) masses of oxidized iron; few fine mica flakes; moderately acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Rock fragments: 0 to 5 percent throughout the profile
Soil reaction: Strongly acid to slightly acid; all pedons have a subhorizon in the 10- to 40-inch control section that is moderately acid or slightly acid
Mica flakes: None to common throughout the profile

A or Ap horizon:
Color—hue of 5YR or 10YR, value of 3 to 5, and chroma of 2 to 6; where horizon has value of 3, it is less than 6 inches thick
Texture—loamy sand, sandy loam, fine sandy loam, loam, or silt loam

C horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—sand, loamy sand, loamy fine sand, fine sandy loam, sandy loam, or loam
Redoximorphic features—iron masses in shades of yellow or brown and iron depletions in shades of brown or gray may occur below a depth of 20 inches

Trenholm Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Mafic rock residuum
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Low
Depth class: Very deep
Slope: 2 to 7 percent

Associated Soils

- Enon soils, which are well drained
- Poindexter soils, which are well drained and have less clay in the subsoil than the Trenholm soils

Taxonomic Classification

Fine, mixed, active, thermic Albaquic Hapludalfs

Typical Pedon

Trenholm sandy loam, 2 to 7 percent slopes; 1,080 feet east of the junction of

Highways VA-13 and VA-627, about 1,850 feet south of Highway VA-13; Powhatan County, Virginia; lat. 37 degrees 30 minutes 50.7 seconds N. and long. 78 degrees 0 minutes 9.3 seconds W.

A—0 to 2 inches; very dark gray (10YR 3/1) sandy loam; moderate medium granular structure; very friable, nonsticky, nonplastic; many fine, medium, and coarse roots; 3 percent angular quartz gravel; strongly acid; clear smooth boundary.

E—2 to 9 inches; yellowish brown (10YR 5/4) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine, medium, and coarse roots; few fine iron-manganese concretions; 2 percent angular quartz gravel; strongly acid; clear smooth boundary.

BE—9 to 12 inches; light yellowish brown (2.5Y 6/3), pale brown (10YR 6/3), and yellowish brown (10YR 5/6) sandy loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine, medium, and coarse roots; few fine iron-manganese concretions; 2 percent angular quartz gravel; strongly acid; abrupt wavy boundary.

Bt1—12 to 20 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; very firm, very sticky, very plastic; common medium and coarse roots; very few slickensides (pedogenic) and common distinct continuous clay films on all faces of peds; common distinct yellowish red (5YR 5/6) masses of oxidized iron and common distinct light brownish gray (2.5Y 6/2) iron depletions; few coarse grains of feldspar; 2 percent angular quartz gravel; very strongly acid; gradual wavy boundary.

Bt2—20 to 30 inches; light olive brown (2.5Y 5/4) clay; moderate medium subangular blocky structure; very firm, very sticky, very plastic; common medium and coarse roots; very few slickensides (pedogenic) and common distinct continuous clay films on all faces of peds; common fine distinct pale brown (10YR 6/3) and light brownish gray (2.5Y 6/2) iron depletions; few coarse grains of feldspar; 2 percent angular quartz gravel; strongly acid; gradual wavy boundary.

BC—30 to 36 inches; yellowish brown (10YR 5/8) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common medium and coarse roots; few faint patchy clay films on all faces of peds; common fine distinct reddish yellow (7.5YR 6/8) masses of oxidized iron and pale yellow (5Y 7/3) iron depletions; few coarse grains of feldspar; 10 percent angular gneiss gravel; very strongly acid; gradual wavy boundary.

C1—36 to 45 inches; yellowish brown (10YR 5/8) sandy loam; massive; friable, slightly sticky, nonplastic; many fine roots around fragments; very few faint patchy clay films on bedrock; common coarse grains of feldspar; common streaks, specks, and patches of green, black, and white hornblende gneiss; very strongly acid; gradual wavy boundary.

C2—45 to 62 inches; yellowish brown (10YR 5/8) sandy loam; massive; friable, slightly sticky, nonplastic; common fine and medium roots; common coarse grains of feldspar; 2 percent angular gneiss gravel; strongly acid.

Range in Characteristics

Solum thickness: 20 to 40 inches
Thickness of the clayey Bt horizon: 13 to 26 inches
Depth to the abrupt textural change: 10 to 12 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent throughout the profile
Soil reaction: Very strongly acid or strongly acid in the A and E horizons; very strongly acid to moderately acid in the B horizon; very strongly acid to slightly acid in the BC and C horizons
Mica flakes: None to common in the B and C horizons

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 1 to 4
Texture—sandy loam, fine sandy loam, or loam

E horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 4
Texture—sandy loam, fine sandy loam, or loam

BA or BE horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 6
Texture—sandy loam, fine sandy loam, or sandy clay loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—commonly clay; ranging to sandy clay loam and sandy clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

BC horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 2 to 8
Texture—sandy clay loam, clay loam, or clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 2 to 8
Texture—sandy loam, fine sandy loam, loam, or sandy clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

Tuckahoe Series

Physiographic province: Southern Piedmont, thermic
Landscape: Flood-plain valleys
Parent material: Recent alluvium
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 0 to 2 percent

Associated Soils

- Monacan soils, which are moderately well drained
- Wehadkee soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, active, thermic Dystric Fluventic Eutrudepts

Typical Pedon

Tuckahoe loam in an area of Riverview and Tuckahoe soils, 0 to 2 percent slopes, occasionally flooded; 1.7 miles southeast of the junction of Highways VA-600 and VA-627, about 50 feet east of the James River, in cropland; Goochland County, Virginia:

Ap—0 to 10 inches; brown (10YR 4/3) loam; moderate fine granular structure; very friable, nonsticky, slightly plastic; many fine roots; few fine mica flakes; neutral; clear smooth boundary.
Bw1—10 to 17 inches; brown (10YR 4/3) loam; weak fine subangular blocky structure;

friable, nonsticky, slightly plastic; many fine roots; few fine mica flakes; neutral; clear wavy boundary.

Bw2—17 to 30 inches; brown (10YR 4/3) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine mica flakes; slightly acid; clear wavy boundary.

Bw3—30 to 43 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine mica flakes; slightly acid; clear wavy boundary.

Bw4—43 to 61 inches; brown (7.5YR 5/4) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; very few distinct light yellowish brown (10YR 6/4) sand coats; few fine mica flakes; slightly acid; gradual wavy boundary.

C—61 to 68 inches; brown (7.5YR 5/4) silt loam; massive; friable, nonsticky, slightly plastic; few fine roots; few fine distinct manganese coatings; few fine mica flakes; slightly acid.

Range in Characteristics

Solum thickness: 40 to 65 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 5 percent quartz gravel throughout the profile
Soil reaction: Strongly acid to neutral throughout the profile
Mica flakes: None to many throughout the profile
Other features: Buried horizons occur in some pedons in the lower part of the solum

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 4, and chroma of 2 to 4
Texture (fine-earth fraction)—fine sandy loam, loam, or silt loam

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 to 6
Texture—loam, silt loam, clay loam, or silty clay loam; sand content is less than 45 percent
Redoximorphic features—iron masses in shades of yellow, brown, or red and iron depletions (below a depth of 24 inches) in shades of olive or gray

C horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 to 6
Texture—loam or silt loam
Redoximorphic features—iron masses in shades of yellow, brown, or red and iron depletions (below a depth of 24 inches) in shades of olive or gray

Wateree Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Granite and granite gneiss residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Moderately deep
Slope: 7 to 45 percent

Associated Soils

- Helena soils, which are moderately well drained and have bedrock to a depth of more than 60 inches

- Pacolet soils, which are well drained and have bedrock to a depth of more than 60 inches

Taxonomic Classification

Coarse-loamy, mixed, semiactive, thermic Typic Dystrudepts

Typical Pedon

Wateree sandy loam, 15 to 25 percent slopes; 0.62 mile west and 0.33 mile north of the junction of Highways VA-637 and VA-670, in woodland; Bedford County, Virginia:

A—0 to 2 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable, slightly sticky, slightly plastic; many fine and common medium and coarse roots; few medium mica flakes; 10 percent angular gneiss gravel; moderately acid; abrupt wavy boundary.

E—2 to 6 inches; brown (10YR 5/3) fine sandy loam; weak fine granular structure; very friable, slightly sticky, slightly plastic; many fine and common medium and coarse roots; few medium mica flakes; 6 percent angular quartz gravel and 6 percent angular gneiss gravel; very strongly acid; clear wavy boundary.

Bw—6 to 19 inches; yellowish brown (10YR 5/4) sandy loam; weak medium subangular blocky structure; very friable, slightly sticky, nonplastic; many fine and common medium and coarse roots; few medium mica flakes; 10 percent angular gneiss gravel; strongly acid; clear wavy boundary.

C—19 to 39 inches; strong brown (7.5YR 5/6) sandy loam saprolite of granite gneiss that crushes easily; common medium prominent very dark grayish brown (10YR 3/2) and brown (10YR 4/3) mottles; massive; friable, soft, slightly sticky, nonplastic; common fine roots; common medium mica flakes; strongly acid; gradual wavy boundary.

Cr—39 to 59 inches; strong brown (7.5YR 5/8), yellow (10YR 7/6), and very dark grayish brown (10YR 3/2) moderately hard granite gneiss bedrock; massive; firm, hard, slightly sticky, nonplastic; few fine roots in cracks; common medium mica flakes; strongly acid; clear wavy boundary.

R—59 to 69 inches; extremely hard granite gneiss bedrock.

Range in Characteristics

Solum thickness: 14 to 30 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches or more
Rock fragments: 0 to 35 percent throughout the profile
Soil reaction: Very strongly acid to moderately acid in the A and B horizons; extremely acid to moderately acid in the C and Cr horizons

A horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 4; value ranges to 3 in pedons where the horizon is less than 6 inches thick
Texture (fine-earth fraction)—sandy loam or fine sandy loam

E horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 3 or 4
Texture (fine-earth fraction)—sandy loam or fine sandy loam

Bw horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8
Texture (fine-earth fraction)—coarse sandy loam, sandy loam, or fine sandy loam in the fine-earth fraction; thin layers of loamy sand or sandy clay loam occur in some pedons
Non-redoximorphic mottles (if they occur)—shades of brown or yellow

C horizon:
Color—hue of 5YR to 2.5Y, value of 5 or 6, and chroma of 6 to 8
Texture (fine-earth fraction)—sand, fine sand, loamy sand, loamy fine sand, coarse sandy loam, sandy loam, or fine sandy loam saprolite
Non-redoximorphic mottles (if they occur)—shades of white, black, brown, or yellow

Cr horizon:
Color—hue of 5YR to 2.5Y, value of 5 or 6, and chroma of 6 to 8
Bedrock—highly weathered granite gneiss
Non-redoximorphic mottles (if they occur)—shades of white, black, brown, or yellow

R horizon:
Bedrock—relatively unweathered granite gneiss

Wedowee Series

Physiographic province: Southern Piedmont, thermic
Landscape: Uplands
Parent material: Granite gneiss residuum
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 60 percent

Associated Soils

- Appling soils, which are well drained and have thicker subsoils than the Wedowee soils
- Helena soils, which are moderately well drained
- Pacolet soils, which are well drained and have redder subsoils than the Wedowee soils
- Poindexter soils, which are well drained and have less clay in the subsoil than the Wedowee soils

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Wedowee fine sandy loam in an area of Poindexter-Wedowee complex, 15 to 25 percent slopes; 1.2 miles south on Woodhaven Trail from the junction of Woodhaven Trail and Highway VA-45, about 0.4 mile southwest on a field lane, 660 feet southeast, in woodland; Cumberland County, Virginia; lat. 37 degrees 26 minutes 10.50 seconds N. and long. 78 degrees 17 minutes 35 seconds W.

A—0 to 3 inches; brown (10YR 4/3) fine sandy loam; common fine faint very dark grayish brown (10YR 3/2) mottles; weak medium granular structure; very friable, nonsticky, nonplastic; many medium and coarse roots; 10 percent angular quartz gravel; strongly acid; clear wavy boundary.
E—3 to 9 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium granular structure; friable, nonsticky, nonplastic; few medium and coarse roots; few fine mica flakes; 10 percent angular quartz gravel; strongly acid; clear wavy boundary.
BE—9 to 15 inches; brownish yellow (10YR 6/6) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; few

fine mica flakes; 10 percent angular quartz gravel; strongly acid; gradual wavy boundary.

Bt1—15 to 28 inches; strong brown (7.5YR 5/6) sandy clay; common fine faint yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; friable, slightly sticky, moderately plastic; few fine roots; common prominent continuous clay films on all faces of peds; few fine mica flakes; very strongly acid; gradual wavy boundary.

Bt2—28 to 32 inches; reddish yellow (7.5YR 6/6) sandy clay; common fine faint yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; friable, slightly sticky, moderately plastic; few fine roots; common prominent continuous clay films on all faces of peds; common fine mica flakes; very strongly acid; gradual wavy boundary.

BCt—32 to 38 inches; reddish yellow (7.5YR 6/6) sandy clay loam; common fine distinct yellow (10YR 7/8) and red (2.5YR 5/8) mottles; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few distinct patchy clay films on vertical faces of peds; common fine mica flakes; few medium mica flakes; very strongly acid; gradual wavy boundary.

C1—38 to 48 inches; strong brown (7.5YR 5/6) sandy clay loam; common fine distinct yellow (10YR 7/8) and red (2.5YR 5/8) mottles; massive; friable, nonsticky, nonplastic; few fine roots; common fine mica flakes; few medium mica flakes; strongly acid; abrupt wavy boundary.

C2—48 to 61 inches; strong brown (7.5YR 5/8) sandy loam soft saprolite; common fine distinct brownish yellow (10YR 6/6) and common fine prominent very pale brown (10YR 8/2) mottles; massive; friable, nonsticky, nonplastic; few fine roots; common fine and medium mica flakes; strongly acid.

Range in Characteristics

Thickness of Bt horizon: Portion of the Bt horizon that averages 35 to 60 percent is at least 8 inches thick and extends to a depth of 14 to 35 inches

Depth to hard bedrock: More than 60 inches

Rock fragments: 0 to 35 percent quartz gravel in the A, E, and BE horizons and 0 to 10 percent in the B and C horizons

Soil reaction: Typically extremely acid to strongly acid throughout the profile; moderately acid or slightly acid in limed areas

Mica flakes: None or few in the A and E horizons and in the upper part of the B horizon; none to common in the lower part of the B horizon and in the C horizon

A or Ap horizon:

Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 8

Texture (fine-earth fraction)—sandy loam or fine sandy loam

E horizon:

Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8

Texture (fine-earth fraction)—sandy loam or fine sandy loam

BE horizon:

Color—hue of 5YR to 10YR, value of 4 to 7, and chroma of 3 to 8

Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Bt horizon:

Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 6 to 8

Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay

Non-redoximorphic mottles—shades of brown, yellow, or red; in the lower part of horizon in most pedons and in the upper part of horizon in some pedons

BC horizon:

Color—hue of 2.5YR to 10YR, value of 5 to 7, and chroma of 4 to 8
Texture (fine-earth fraction)—fine sandy loam, loam sandy clay loam, or clay loam
Non-redoximorphic mottles—shades of red, brown, or yellow

C horizon:

Color—hue of 2.5YR to 10YR, value of 3 to 8, and chroma of 1 to 8
Texture (fine-earth fraction)—highly weathered gneiss, granite, or schist saprolite that crushes to sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam
Non-redoximorphic mottles—shades of red, brown, yellow, or white

Wehadkee Series

Physiographic province: Southern Piedmont, thermic
Landscape: Flood-plain valleys
Parent material: Recent alluvium
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 0 to 2 percent

Associated Soils

- Chewacla soils, which are somewhat poorly drained
- Riverview soils, which are well drained
- Toccoa soils, which are moderately well drained and have less clay in the subsoil than the Wehadkee soils

Taxonomic Classification

Fine-loamy, mixed, active, nonacid, thermic Fluvaquentic Endoaquepts

Typical Pedon

Wehadkee sandy loam, 0 to 2 percent slopes, frequently flooded; 3,600 feet upstream along Angola Creek from the Highway VA-673 bridge, 100 feet south of the creek channel, in partial woodland; Cumberland County, Virginia; lat. 37 degrees 22 minutes 24.50 seconds N. and long. 78 degrees 16 minutes 22 seconds W.

Oe—0 to 1 inch; very dark grayish brown (10YR 3/2) moderately decomposed plant material; abrupt wavy boundary.

Ag1—1 to 5 inches; light brownish gray (10YR 6/2) sandy loam; weak fine granular structure; friable; many very fine, fine, and medium and few coarse roots; common fine mica flakes; moderately acid; abrupt wavy boundary.

Ag2—5 to 7 inches; gray (10YR 5/1) loam; weak fine granular structure; friable; many very fine, fine, and medium and few coarse roots; common coarse prominent irregular strong brown (7.5YR 4/6) masses of oxidized iron; common fine mica flakes; moderately acid; clear wavy boundary.

Bg1—7 to 12 inches; gray (5Y 5/1) silt loam; weak medium subangular blocky structure; friable; many very fine, fine, and medium and few coarse roots; common fine mica flakes; slightly acid; clear wavy boundary.

Bg2—12 to 20 inches; dark greenish gray (5GY 4/1) clay loam; weak medium subangular blocky structure; friable; few very fine and fine roots; common very fine mica flakes; slightly acid; clear wavy boundary.

Cg1—20 to 30 inches; dark greenish gray (5GY 4/1) sandy loam; massive; firm; few very fine and fine roots; common very fine mica flakes; slightly acid; clear wavy boundary.

Cg2—30 to 52 inches; dark gray (5Y 4/1) clay loam; massive; firm; few very fine and fine roots; common fine mica flakes; slightly acid; clear wavy boundary.
Cg3—52 to 61 inches; greenish gray (5GY 5/1) sandy clay loam; massive; very firm; few very fine and fine roots; few medium distinct olive brown (2.5Y 4/4) masses of oxidized iron; slightly acid.

Range in Characteristics

Solum thickness: 20 to 60 inches or more
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 5 percent in the A and B horizons and 0 to 20 percent in the C horizon; dominantly quartz pebbles
Soil reaction: Moderately acid to neutral throughout the profile
Mica flakes: Few to many throughout the profile

A or Ag horizon:
Color—horizon is neutral in hue or has hue of 10YR or 2.5Y, has value of 3 to 6, and has chroma of 0 to 4
Texture—sandy loam, fine sandy loam, loam, or silt loam
Redoximorphic features—iron masses in shades of brown or yellow and iron depletions in shades brown, olive, or gray

Bg horizon:
Color—horizon is neutral in hue or has hue of 10YR, 2.5Y, 5Y, or 5GY, has value of 4 to 6, and has chroma of 0 to 2
Texture—loam, silt loam, sandy clay loam, clay loam, or silty clay loam
Redoximorphic features—iron masses in shades of brown or yellow and iron depletions in shades brown, olive, or gray

Cg horizon:
Color—horizon is neutral in hue or has hue of 10YR, 2.5Y, 5Y, or 5GY, has value of 4 to 7, and has chroma of 0 to 2
Texture (fine-earth fraction)—sandy loam, loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of brown or yellow and iron depletions in shades brown, olive, or gray

Wintergreen Series

Physiographic province: Southern Piedmont, mesic
Landscape: High stream terrace valleys
Parent material: Ancient alluvium
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope: 2 to 7 percent

Associated Soils

- Clifford soils, which are well drained and have thinner subsoils than the Wintergreen soils

Taxonomic Classification

Fine, mixed, subactive, mesic Typic Paleudults

Typical Pedon

Wintergreen loam, 2 to 7 percent slopes; 0.85 mile southwest of the junction of Highways VA-602 and VA-653, about 1.14 miles southeast of the Highway VA-602

bridge over the James River; Buckingham County, Virginia; lat. 37 degrees 43 minutes 1.4 seconds N. and long. 78 degrees 37 minutes 57.5 seconds W.

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4) sandy loam; moderate fine and medium granular structure; friable, slightly sticky, nonplastic; many fine and medium roots; strongly acid; abrupt wavy boundary.

Bt—6 to 70 inches; dark red (2.5YR 3/6) clay; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; many fine roots; many distinct continuous clay films on all faces of peds; few medium distinct (7.5YR 2/0) manganese masses; strongly acid.

Range in Characteristics

Solum thickness: 60 inches or more
Depth of colluvium or alluvium: More than 60 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 25 percent in the A and E horizons and in the upper part of the B horizon and 0 to 60 percent in the lower part of the Bt horizon and in the C horizon; mostly gravel, cobbles, and stones of igneous and metamorphic rock
Soil reaction: Typically extremely acid to strongly acid; moderately acid or slightly acid in limed areas
Mica content: None or few throughout the profile

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 2 to 5, and chroma of 1 to 6; where value is 2 or 3, the horizon is less than 6 inches thick
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA horizon (if it occurs):
Color—hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 4 to 8
Texture (fine-earth fraction)—sandy clay loam or clay loam

Bt horizon:
Color—hue of 10R or 2.5YR, value of 3 to 5, and chroma of 6 to 8; value of 3 is limited to individual subhorizons; subhorizons with hue of 5YR occur in some pedons
Relict mottles—shades of red, yellow, gray, or brown occur in the lower part of the horizon in some pedons
Texture (fine-earth fraction)—clay loam, sandy clay, or clay

BC horizon (if it occurs):
Color—hue of 10R or 2.5YR, value of 3 to 5, and chroma of 6 to 8; horizon has hue of 5YR in some pedons; horizon is mottled or streaked in shades of red, yellow, and brown in some pedons
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay

C horizon (if it occurs):
Color—hue of 10R to 7.5YR, value of 3 to 8, and chroma of 1 to 8
Texture (fine-earth fraction)—sandy loam, loam, sandy clay loam, clay loam, clay, or sandy clay

Worsham Series

Physiographic province: Southern Piedmont, thermic
Landscape: Drainageways in valleys
Parent material: Alluvium
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Low

Depth class: Very deep
Slope: 0 to 4 percent

Associated Soils

- Appling soils, which are well drained
- Helena soils, which are moderately well drained
- Wedowee soils, which are well drained and have thinner subsoils than the Worsham soils

Taxonomic Classification

Fine, mixed, active, thermic Typic Endoaquults

Typical Pedon

Worsham loam, 0 to 4 percent slopes; 1.42 miles east from Ashby on Highway VA-616 to a small power line clearing, 150 feet west along the power line, 145 feet in a direction that is 6 degrees west of north, in cropland; Cumberland County, Virginia; lat. 37 degrees 34 minutes 57.50 seconds N. and long. 78 degrees 9 minutes 8 seconds W.

A—0 to 3 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak coarse granular structure; friable, nonsticky, nonplastic; many fine and medium roots; few very fine mica flakes; strongly acid; clear smooth boundary.

Eg—3 to 7 inches; grayish brown (10YR 5/2) loam; weak medium granular structure; friable, nonsticky, nonplastic; many fine roots; many medium faint yellowish brown (10YR 5/4) masses of oxidized iron; few very fine mica flakes; strongly acid; abrupt wavy boundary.

BEg—7 to 14 inches; grayish brown (10YR 5/2) sandy clay loam; weak medium subangular blocky structure; friable, nonsticky, slightly plastic; many fine roots; many fine and medium prominent yellowish red (5YR 5/8) masses of oxidized iron; few very fine mica flakes; moderately acid; gradual wavy boundary.

Btg1—14 to 34 inches; gray (10YR 6/1) sandy clay; moderate coarse subangular blocky structure; very firm, moderately sticky, moderately plastic; few very fine roots; few faint continuous gray (10YR 6/1) clay films on all faces of peds; common fine faint gray (N 6/0) iron depletions and many fine prominent yellowish brown (10YR 5/6) and yellowish red (5YR 5/8) masses of oxidized iron; few very fine mica flakes; moderately acid; gradual smooth boundary.

Btg2—34 to 47 inches; gray (N 6/0) sandy clay; weak medium angular blocky structure; firm, moderately sticky, moderately plastic; few very fine roots; very few distinct discontinuous grayish brown (10YR 5/2) clay films on all faces of peds; few fine prominent strong brown (7.5YR 5/8) and common fine and medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; few very fine mica flakes; moderately acid; gradual smooth boundary.

BCg—47 to 57 inches; light gray (N 7/0) sandy clay loam; weak medium angular blocky structure; firm, nonsticky, slightly plastic; very few faint patchy light gray (N 7/0) clay films on all faces of peds; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; few very fine mica flakes; moderately acid; gradual smooth boundary.

Cg—57 to 61 inches; gray (N 6/0) and light gray (5Y 7/1) sandy loam; massive; firm, nonsticky, nonplastic; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; few very fine mica flakes; moderately acid.

Range in Characteristics

Solum thickness: 40 to 80 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 10 percent quartz gravel throughout the profile

Soil reaction: Typically very strongly acid or strongly acid; moderately acid or slightly acid in limed areas
Mica flakes: Few or common throughout the profile

A horizon:
Color—horizon is neutral in hue or has hue of 10YR to 5Y, has value of 2 to 6, and has chroma of 0 to 3
Texture—sandy loam, fine sandy loam, or loam

Eg horizon:
Color—horizon is neutral in hue or has hue of 10YR to 5Y, has value of 4 to 6, and has chroma of 0 to 3
Texture—sandy loam, fine sandy loam, or loam
Redoximorphic features—iron masses in shades of brown, yellow, or red

BEg horizon:
Color—horizon is neutral in hue or has hue of 10YR to 5Y, has value of 5 or 6, and has chroma of 0 to 2
Texture—sandy clay loam or clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red

Btg horizon:
Color—horizon is neutral in hue or has hue of 10YR to 5Y, has value of 5 or 6, and has chroma of 0 to 2
Texture—clay loam, sandy clay, or clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of olive or gray

BCg horizon:
Color—horizon is neutral in hue or has hue of 10YR or 2.5Y, has value of 4 to 7, and has chroma of 0 to 2
Texture—sandy clay loam or clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of olive or gray

Cg horizon:
Color—horizon is neutral in hue or has hue of 10YR to 5Y, has value of 4 to 7, and has chroma of 0 to 2
Texture—sandy loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of olive or gray

Formation of the Soils

This section describes the factors of soil formation as they relate to Cumberland County. It also discusses the morphology of the soils and the important processes in the development of soil horizons.

Factors of Soil Formation

Soils form through weathering and other processes that act on parent material. The characteristics of the soil at any given point depend on the interaction of parent material, climate, plants and animals, relief (or topography), and time *(7)*.

Climate along with plants and animals are the active forces of soil formation. They act on the parent material that has accumulated through the weathering of rocks and slowly change it into a soil. All five factors contribute to formation of every soil. The relative influence of each factor generally varies from one area to another. In extreme cases one factor dominates soil formation and determines most of the soil properties. In general, however, the combined action of the five factors determines the character of each soil.

Climate

Precipitation and temperature are the main climatic factors that influence soil formation. Water dissolves minerals, promotes biological activity, and transports mineral and organic residue through the soil. Temperature determines the types of physical, chemical, and biological activities that take place in the soil and the speed at which they occur.

Cumberland County has a warm, continental climate. The average rainfall and air temperature are relatively high. Much of the soluble material that was originally in the soils or was released through weathering has been leached out by percolating waters. Water also moves the small colloidal clay particles from the upper part of the soil to the subsoil. The soils in Cumberland County are frozen for only a very short period each year, and rarely freeze in wooded areas. Consequently, weathering and translocation of leachable material continues all year.

Plant and Animal Life

The presence or lack of vegetation influences the amount of organic matter in the soil, the color of the surface layer, and, to some extent, the content of plant nutrients. Earthworms and burrowing animals help to keep the soil open and porous. Microorganisms such as bacteria and fungi decompose plant material into organic residue and incorporate it into the soil, which eventually becomes available as nutrients that can be absorbed by plant roots.

The native vegetation in Cumberland County originally consisted mainly of hardwoods. After harvesting the hardwoods, many areas were converted to pine tree forest because pine trees obtain saw timber size faster. Human activities, including the clearing of forests, cultivation, the introduction of new plants, and the alteration of the natural drainage, have an effect on soil character. The most significant effects of these

activities are evident in areas where the upper soil layers have been mixed and a compacted plow layer has formed, where cultivation has accelerated erosion on strongly sloping soils, and where applications of lime and fertilizer have changed plant nutrient content, especially in the upper soil layers.

Parent Material

Parent material is the unconsolidated mass in which a soil forms. It is largely responsible for the chemical and mineralogical composition of the soil and, to some extent, the rate at which the soil forms. In the Piedmont uplands of Cumberland County the soils formed primarily in residuum from gneiss, schist, sandstone, siltstone, mudstone, shale, and greenstone. On the flood plains and stream valleys, the soils formed in recent alluvium.

The oldest parent material is found in western Cumberland County on the summits and side slopes of the Piedmont Plateau. Soils formed in the residuum of granite-gneiss, granite, and mixed metamorphic rock. They are generally strongly acid or very strongly acid and have a clayey subsoil that is yellowish brown to red. Clifford, Enon, and Halifax soils are examples.

A second source of parent material is alluvium. This material was deposited by streams and rivers as they formed the river bottoms and valleys. The two largest rivers of Cumberland County are the Appomattox and James Rivers. The source of the parent material is from the Piedmont uplands of Cumberland County and surrounding counties. Soils with this parent material occur on nearly level to gently sloping terrain and occupy the lowest elevations in the county. Soil drainage varies from poorly drained to somewhat excessively drained. Codorus soils, which are somewhat poorly drained, and Riverview soils, which are well drained, are the dominant flood-plain soils. Sindion soils, which are moderately well drained, and Speedwell soils, which are well drained, occur on the larger flood plain of the James River. Dogue soils, which are moderately well drained, and State and Wintergreen soils, which are well drained, occur on stream terraces. These soils are in the higher landform positions above the flood plains.

Topography

Topography refers to the relief and land surface configuration of an area. Over time, the effects of rainfall and subsequent surface runoff change the topography and landscapes evolve. Land that was once flat is dissected and carved by natural erosion to form drainage basins or watersheds separated by drainage divides. Intermittent streams form where surface runoff concentrates from higher landscape positions. The intermittent streams flow into and supply perennial streams and rivers. They act as transport mechanisms carrying soil that has eroded during rain events.

The relief or differences in elevation and landscape position affect water infiltration, rate of surface water runoff, soil drainage, soil temperature, and the vegetation species present. Soil drainage is commonly related to landscape position. Soils occurring on slightly concave, nearly level to flat slopes are typically not as well drained as those in convex sloping areas. Low areas of the landscape receive surface runoff from higher surrounding slopes and commonly have soils with poor drainage. Soil drainage in turn may narrow the variety of vegetation species adapted to grow in an area.

The nearly level soils are common on stream terraces. These soils may be wet because of frequent flooding or a seasonal high water table, and the surface water runoff is typically slow. The wetter soils typically have a subsoil or substratum that is gray or mottled gray and are moderately well drained to poorly drained. Banister soils are an example. They have high water tables and the associated gray colors.

Time

The degree of horizon development within a soil is related to the amount of time that the soil has been subject to the other soil-forming factors. A soil that is characterized by little or no horizon development is considered young, and one that has developed diagnostic horizons is considered relatively older.

The oldest soils in the survey area are those that formed on well drained uplands at the higher elevations. These older soils, including as Appling, Cecil, Clifford, and Nathalie soils, have a strong degree of horizon differentiation or development. Soils such as Toccoa soils that formed in recent alluvium have been in place only a relatively short period of time, from a geologic perspective, and show very weak profile development, except for accumulation of organic matter in the surface horizon and a slight change in subsoil color. These soils are commonly stratified and have an irregular distribution of organic matter in the profile. Other flood-plain soils, such as Codorus, Riverview, and Tuckhoe soils, are intermediate in degree of horizon development as compared to the very old residual Cecil and Clifford soils and the young alluvial Toccoa soils.

Morphology of the Soils

The results of the soil-forming factors can be distinguished by the different layers, or soil horizons, in a soil profile. The soil profile extends from the surface down to materials that have been altered very little by the soil-forming processes.

Soils of the Piedmont uplands, such as the Cecil and Clifford soils, may have as many as four master horizons—the A, E, B, and C horizons. These horizons may be further subdivided by the use of letters and numbers to indicate changes within one type of horizon. For example, a B horizon may consist of a Bt1 horizon that has a clay texture and a Bt2 horizon that has a clay loam texture.

The A horizon is the surface layer and has the largest accumulation of organic matter. The E horizon is below the surface layer and is the layer of maximum leaching, or eluviation, of clay and iron. E horizons also have much less organic matter than the A horizon.

The B horizon underlies the A or E horizon and is commonly called the subsoil. It is the horizon of maximum accumulation, or illuviation, of clay, iron, aluminum, or other compounds leached from the surface layer. In some soils the B horizon formed by alteration in place rather than by illuviation. The alteration can be caused by oxidation and reduction of iron or by the weathering of clay minerals. The B horizon commonly has blocky structure, and it generally is firmer and brighter in color than the A horizon but darker in color than the C horizon.

The C horizon is typically below the B horizon, or in some cases, below the A horizon (in soils that do not have a B horizon, such as in young soils like the Toccoa soils on flood plains). This horizon consists of materials that are little altered by the soil-forming processes, but it can be modified by weathering when given enough time.

Processes of Soil Horizon Differentiation

In this survey area several processes are involved in the formation of soil horizons. Among these are the accumulation of organic matter, the leaching of soluble salts, the reduction and transfer of iron, the formation of soil structure, and the formation and translocation of clay minerals. These processes are continually taking place generally at the same time throughout the profile. Such processes have been going on for thousands of years.

The accumulation and incorporation of organic matter takes place with the

decomposition of plant residue. These additions darken the surface layer and help to form the A horizon. Most of the soils in Cumberland County formed under forest vegetation. Because this vegetation has fewer and coarser roots when compared to grassland, little organic residue is contributed from root decomposition. Some organic matter is added through leaf litter decomposition, especially where wet soils have anaerobic conditions most of the time and organic matter accumulates.

For soils to have distinct subsoil horizons, it is believed that some of the lime and soluble salts must be leached before the translocation of clay minerals occur. Among the factors that affect this leaching are the kinds of salts originally present, the depth to which the soil solution percolates, and the texture of the soil profile.

Well drained and moderately well drained soils in the survey area have a yellowish brown to yellowish red subsoil. These colors are caused mainly by thin coatings of iron oxides on sand and silt grains; although, in some soils the colors are inherited from the materials in which they formed. The structure is weak to moderate subangular blocky, and the subsoil contains more clay than the overlying surface horizons.

The reduction and transfer of iron is associated mainly with the wetter, more poorly drained soils. This process is called gleying or gleization. Moderately well drained and somewhat poorly drained soils, such as Halifax and Codorus soils, have yellowish brown and strong brown redoximorphic features, which indicate the reduction, segregation, and reoxidation of iron. In poorly drained soils, such as Worsham soils, the subsoil and underlying materials are grayish, which indicates reduction and transfer of iron by removal in solution.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial fan. A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp. A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Basal area. The area of a cross section of a tree, generally referring to the section at

breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. An informal term loosely applied to various portions of a flood plain.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of

parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Cement rock. Shaly limestone used in the manufacture of cement.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Concretions. See Redoximorphic features.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse-grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Crusts, soil. Relatively thin, somewhat continuous layers of the soil surface that often restrict water movement, air entry, and seedling emergence from the soil. They generally are less than 2 inches thick and are massive.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than

1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep soils, 20 to 40 inches; shallow soils, 10 to 20 inches; and very shallow soils, less than 10 inches.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw. A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long

geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan (alluvial). A generic term for constructional landforms that are built of stratified alluvium with or without debris-flow deposits and that occur on the pediment slope, downslope from their source of alluvium.

Fan remnant. A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flooding frequency class. Flooding frequency class is the number of times flooding occurs over a period of time and expressed as a class. The classes of flooding are defined as follows:

None.—There is no reasonable possibility of flooding. The chance of flooding is near 0 percent in any year or less than 1 time in 500 years.
Very rare.—Flooding is very unlikely but possible under extremely unusual weather conditions. The chance of flooding is less than 1 percent in any year or less than 1 time in 100 years but is at least 1 time in 500 years.
Rare.—Flooding is unlikely but possible under unusual weather conditions. The chance of flooding is 1 to 5 percent in any year or nearly 1 to 5 times in 100 years.
Occasional.—Flooding is expected infrequently under usual weather conditions. The chance of flooding is 5 to 50 percent in any year or more than 5 to 50 times in 100 years.
Frequent.—Flooding is likely to occur often under usual weather conditions. The chance of flooding is more than 50 percent in any year or more than 50 times in 100 years but is less than 50 percent in all months in any year.
Very frequent.—Flooding is likely to occur very often under usual weather conditions. The chance of flooding is more than 50 percent in all months of any year.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially. The following are specific types of flood plains:
Low level flood plain.—A flood plain that is susceptible to frequent flooding.
Low to intermediate level flood plain.—A flood plain that is susceptible to occasional flooding.
High level flood plain.—A flood plain that is susceptible to rare flooding.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. It may occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon

also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general

direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses. See Redoximorphic features.

Meander belt. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll. One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mudstone. A blocky or massive, fine-grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation. A designation of color by degrees of three simple variables—hue,

value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches

Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower-lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse-grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8

Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features. The redoximorphic features are defined as follows:

1. *Redoximorphic concentrations.*—These are zones of apparent accumulation of iron-manganese oxides and include nodules and concretions, masses, and pore linings. *Nodules and concretions* are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure. *Masses* are noncemented concentrations of substances within the soil matrix. *Pore linings* are zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. *Redoximorphic depletions.*—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out. They include iron depletions and clay depletions. *Iron depletions* are zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix. *Clay depletions* are zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. *Reduced matrix.*—This is a soil matrix that has low chroma in situ but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments ranging from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk denisty, and the lowest water content at saturation of all organic soil material.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Saturated hydraulic conductivity (K_{sat}). The amount of water that would move vertically through a unit area of saturated soil in unit time under unit hydraulic gradient. Terms describing saturated hydraulic conductivity, measured in inches per hour (micrometers per second), are as follows:

Very low	0.0 to 0.001417 (0.0 to 0.01)
Low	0.001417 to 0.01417 (0.01 to 0.1)
Moderately low	0.01417 to 0.1417 (0.1 to 1.0)
Moderately high	0.1417 to 1.417 (1.0 to 10)
High	1.417 to 14.7 (10 to 100)
Very high	more than 14.7 (more than 100)

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope (geomorphology). A geomorphic component of hills consisting of a

laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 7 percent
Strongly sloping	7 to 15 percent
Moderately steep	15 to 25 percent
Steep	25 to 45 percent or more

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce

a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion. A terrace susceptible to flooding is subdivided into 1) a *low stream terrace*, which is susceptible to flooding, and 2) a *high stream terrace,* which is not susceptible to flooding.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of

water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse-grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.—Temperature and Precipitation

(Recorded in the period 1971-2000 at Amelia, Virginia)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temp. higher than--	2 years in 10 will have-- Minimum temp. lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snow-fall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January--	47.0	24.7	35.9	72	1	69	3.64	2.03	5.17	7	4.5
February-	50.1	27.1	38.6	76	5	93	3.29	1.67	4.90	6	4.2
March----	59.6	34.1	46.8	84	14	249	4.25	2.47	5.65	7	1.7
April----	69.4	41.9	55.7	89	23	471	3.28	1.55	5.06	5	0.4
May------	76.8	51.3	64.1	92	34	743	3.94	2.58	5.28	7	0.0
June-----	87.4	60.3	72.5	97	43	967	3.23	1.65	4.74	5	0.0
July-----	88.6	64.8	76.7	101	51	1,132	4.33	2.12	6.46	7	0.0
August---	86.5	62.9	74.7	98	48	1,056	4.07	1.87	6.32	6	0.0
September	80.8	55.9	68.3	95	38	848	4.08	1.83	5.92	5	0.0
October--	70.6	43.3	57.0	88	26	526	4.12	1.50	6.03	4	0.0
November-	60.7	35.5	48.1	81	16	270	3.74	1.81	5.15	6	0.3
December-	50.9	27.9	39.4	75	6	111	2.99	1.37	4.60	5	1.6
Yearly:											
Average	68.8	44.1	56.5	---	---	---	---	---	---	---	---
Extreme	102	-12	---	101	-2	---	---	---	---	---	---
Total--	---	---	---	---	---	6,534	44.96	33.59	49.53	70	12.6

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Amelia, Virginia)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 7	Apr. 20	May 4
2 years in 10 later than--	Apr. 1	Apr. 15	Apr. 28
5 years in 10 later than--	Mar. 22	Apr. 5	Apr. 17
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 26	Oct. 13	Oct. 1
2 years in 10 earlier than--	Nov. 1	Oct. 19	Oct. 8
5 years in 10 earlier than-	Nov. 13	Oct. 31	Oct. 21

Table 3.—Growing Season

(Recorded in the period 1971-2000 at Amelia, Virginia)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 oF
	Days	Days	Days
9 years in 10	214	183	154
8 years in 10	222	192	165
5 years in 10	236	210	187
2 years in 10	250	228	209
1 year in 10	258	238	221

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1B	Appling sandy loam, 2 to 7 percent slopes	21,400	11.1
2C	Appling-Helena complex, 7 to 15 percent slopes	21,322	11.1
3B	Banister fine sandy loam, 2 to 7 percent slopes, rarely flooded	400	0.2
4B	Bentley-Nathalie complex, 2 to 7 percent slopes	760	0.4
5B	Brickhaven-Creedmoor complex, 2 to 7 percent slopes	7,552	3.9
5C	Brickhaven-Creedmoor complex, 7 to 15 percent slopes	2,295	1.2
6B	Cecil sandy loam, 2 to 7 percent slopes	16,911	8.8
7C	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	9,678	5.0
8A	Chewacla and Monacan soils, 0 to 2 percent slopes, frequently flooded	8,717	4.5
9B	Clifford sandy loam, 2 to 7 percent slopes	2,844	1.5
10C	Clifford sandy loam, 7 to 15 percent slopes, very stony	356	0.2
11C	Clifford clay loam, 7 to 15 percent slopes, severely eroded	2,250	1.2
12A	Codorus loam, 0 to 2 percent slopes, frequently flooded	996	0.5
13B	Delila fine sandy loam, 0 to 4 percent slopes	139	*
14C	Devotion sandy loam, 7 to 15 percent slopes	653	0.3
14D	Devotion sandy loam, 15 to 25 percent slopes	269	0.1
15A	Dogue fine sandy loam, 0 to 2 percent slopes, rarely flooded	1,011	0.5
15B	Dogue fine sandy loam, 2 to 7 percent slopes, rarely flooded	3,179	1.7
16B	Enon-Helena complex, 2 to 7 percent slopes	4,459	2.3
16C	Enon-Helena complex, 7 to 15 percent slopes	4,314	2.2
16D	Enon-Helena complex, 15 to 25 percent slopes	438	0.2
17B	Enon-Helena complex, 2 to 7 percent slopes, very stony	317	0.2
17C	Enon-Helena complex, 7 to 15 percent slopes, very stony	639	0.3
18D	Enon-Poindexter complex, 15 to 25 percent slopes, very stony	383	0.2
19D	Fairview-Devotion complex, 15 to 25 percent slopes	2,253	1.2
19E	Fairview-Devotion complex, 25 to 45 percent slopes	679	0.4
20B	Halifax sandy loam, 2 to 7 percent slopes	757	0.4
20C	Halifax sandy loam, 7 to 15 percent slopes	416	0.2
21B	Helena sandy loam, 2 to 7 percent slopes	6,773	3.5
21C	Helena sandy loam, 7 to 15 percent slopes	2,955	1.5
22B	Jackland-Mirerock complex, 2 to 7 percent slopes	209	0.1
23B	Mattaponi-Appling complex, 2 to 7 percent slopes	3,514	1.8
24B	Mayodan-Exway complex, 2 to 7 percent slopes	1,661	0.9
24C	Mayodan-Exway complex, 7 to 15 percent slopes	1,187	0.6
25B	Mecklenburg loam, 2 to 7 percent slopes	431	0.2
25C	Mecklenburg loam, 7 to 15 percent slopes	231	0.1
26B	Nathalie sandy loam, 2 to 7 percent slopes	4,418	2.3
27C	Nathalie-Halifax complex, 7 to 15 percent slopes	4,336	2.3
28B	Oak Level-Diana Mills complex, 2 to 7 percent slopes	729	0.4
29C	Oak Level-Siloam complex, 7 to 15 percent slopes	665	0.3
29D	Oak Level-Siloam complex, 15 to 25 percent slopes	222	0.1
30D	Pacolet-Wateree complex, 15 to 25 percent slopes	6,946	3.6
30E	Pacolet-Wateree complex, 25 to 45 percent slopes	269	0.1
31B	Pinoka-Carbonton complex, 2 to 7 percent slopes	301	0.2
31C	Pinoka-Carbonton complex, 7 to 15 percent slopes	1,056	0.5
31D	Pinoka-Carbonton complex, 15 to 25 percent slopes	610	0.3
32B	Poindexter-Wedowee complex, 2 to 7 percent slopes	1,615	0.8
32C	Poindexter-Wedowee complex, 7 to 15 percent slopes	7,769	4.0
32D	Poindexter-Wedowee complex, 15 to 25 percent slopes	8,676	4.5
32E	Poindexter-Wedowee complex, 25 to 60 percent slopes	518	0.3
33B	Rasalo-Halifax complex, 2 to 7 percent slopes	794	0.4
33C	Rasalo-Halifax complex, 7 to 15 percent slopes	458	0.2
34E	Rasalo-Spriggs complex, 15 to 45 percent slopes, very stony	383	0.2
35A	Riverview and Tuckahoe soils, 0 to 2 percent slopes, occasionally flooded	1,997	1.0
36A	Sindion silt loam, 0 to 2 percent slopes, occasionally flooded	280	0.1
37A	Speedwell loam, 0 to 2 percent slopes, occasionally flooded	598	0.3
38B	Spriggs-Toast complex, 2 to 7 percent slopes	200	0.1
38C	Spriggs-Toast complex, 7 to 15 percent slopes	1,363	0.7
38D	Spriggs-Toast complex, 15 to 25 percent slopes	1,514	0.8
38E	Spriggs-Toast complex, 25 to 60 percent slopes	275	0.1

See footnote at end of table.

Table 4.—Acreage and Proportionate Extent of the Soils—Continued

Map symbol	Soil name	Acres	Percent
39B	State fine sandy loam, 2 to 7 percent slopes, rarely flooded-------------	286	0.1
40A	Toccoa fine sandy loam, 0 to 2 percent slopes, frequently flooded--------	2,387	1.2
41B	Trenholm sandy loam, 2 to 7 percent slopes------------------------------	2,253	1.2
42C	Wateree sandy loam, 7 to 15 percent slopes------------------------------	989	0.5
42D	Wateree sandy loam, 15 to 25 percent slopes-----------------------------	2,588	1.3
43A	Wehadkee sandy loam, 0 to 2 percent slopes, frequently flooded-----------	2,072	1.1
44B	Wintergreen loam, 2 to 7 percent slopes---------------------------------	394	0.2
45B	Worsham loam, 0 to 4 percent slopes-------------------------------------	1,415	0.7
W	Water---	1,676	0.9
	Total---	192,400	100.0

* Less than 0.1 percent.

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Pasture	Soybeans	Wheat
			Bu	Tons	AUM	Bu	Bu
1B:							
Appling----------	2e	V	100	3.5	8.0	35	56
2C:							
Appling----------	3e	V	88	3.1	7.0	31	49
Helena-----------	3e	KK	57	2.6	5.0	18	28
3B:							
Banister---------	2e	K	130	4.5	9.5	40	64
4B:							
Bentley----------	2e	R	120	4.0	6.0	40	56
Nathalie---------	2e	V	100	3.5	8.0	35	56
5B:							
Brickhaven--------	2e	Y	100	3.5	6.5	35	48
Creedmoor---------	2e	KK	65	3.0	6.0	20	32
5C:							
Brickhaven--------	3e	Y	88	3.1	6.0	31	42
Creedmoor---------	3e	KK	57	2.6	6.0	18	28
6B:							
Cecil------------	2e	X	100	3.5	8.0	35	56
7C:							
Cecil------------	4e	X	62	2.2	8.0	22	34
8A:							
Chewacla----------	6w	I	---	---	9.0	---	---
Monacan-----------	6w	I	---	---	8.0	---	---
9B:							
Clifford----------	2e	X	100	3.5	8.0	35	56
10C:							
Clifford----------	6s	X	---	---	5.0	---	---
11C:							
Clifford----------	4e	X	62	3.5	5.0	22	56
12A:							
Codorus-----------	6w	I	---	---	8.1	---	---
13B:							
Delila-----------	4w	HH	85	3.0	5.3	25	48
14C:							
Devotion----------	3e	FF	75	3.1	5.0	22	42

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Pasture	Soybeans	Wheat
			Bu	Tons	AUM	Bu	Bu
14D:							
Devotion----------	4e	FF	68	2.8	4.0	20	38
15A:							
Dogue-------------	2w	K	130	4.5	9.5	40	64
15B:							
Dogue-------------	2e	K	130	4.5	9.5	40	64
16B:							
Enon--------------	2e	Y	100	3.5	8.5	35	48
Helena------------	2e	KK	65	3.0	5.8	20	32
16C:							
Enon--------------	3e	Y	88	3.1	8.5	31	42
Helena------------	3e	KK	57	2.6	5.0	18	28
16D:							
Enon--------------	4e	Y	80	2.8	8.5	28	38
Helena------------	4e	KK	52	2.4	4.8	16	26
17B:							
Enon--------------	6s	Y	---	---	8.5	---	---
Helena------------	6s	KK	---	---	5.8	---	---
17C:							
Enon--------------	6s	Y	---	---	8.5	---	---
Helena------------	6s	KK	---	---	5.0	---	---
18D:							
Enon--------------	7s	Y	---	---	---	---	---
Poindexter--------	7s	FF	---	---	---	---	---
19D:							
Fairview----------	4e	X	80	2.8	8.5	28	45
Devotion----------	4e	FF	68	2.8	4.0	20	38
19E:							
Fairview----------	6e	X	---	---	4.0	---	---
Devotion----------	6e	FF	---	---	3.0	---	---
20B:							
Halifax-----------	2e	KK	65	3.0	5.8	20	32
20C:							
Halifax-----------	3e	KK	57	2.6	5.0	18	28
21B:							
Helena------------	2e	KK	65	3.0	5.8	20	32
21C:							
Helena------------	3e	KK	57	2.6	5.0	18	28

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Pasture	Soybeans	Wheat
			Bu	Tons	AUM	Bu	Bu
22B:							
Jackland----------	4w	KK	65	3.0	5.5	20	32
Mirerock----------	2e	KK	65	3.0	7.5	20	32
23B:							
Mattaponi---------	2e	R	120	4.0	6.0	40	56
Appling-----------	2e	V	100	3.5	8.0	35	56
24B:							
Mayodan-----------	2e	V	100	3.5	8.0	35	56
Exway-------------	2e	X	100	3.5	7.0	35	56
24C:							
Mayodan-----------	3e	V	88	3.1	7.5	31	49
Exway-------------	3e	X	88	3.1	6.5	31	49
25B:							
Mecklenburg-------	2e	V	100	3.5	6.0	35	56
25C:							
Mecklenburg-------	3e	V	88	3.1	5.0	31	49
26B:							
Nathalie----------	2e	V	100	3.5	8.0	35	56
27C:							
Nathalie----------	3e	V	88	3.1	7.0	31	49
Halifax-----------	3e	KK	57	2.6	5.0	18	28
28B:							
Oak Level---------	2e	V	100	3.5	6.0	35	56
Diana Mills-------	2e	KK	65	3.0	7.0	20	32
29C:							
Oak Level---------	3e	V	88	3.1	5.0	31	49
Siloam------------	4s	JJ	88	2.6	7.0	18	35
29D:							
Oak Level---------	4e	V	80	2.8	4.8	28	45
Siloam------------	4e	JJ	52	2.4	6.8	16	32
30D:							
Pacolet-----------	4e	X	56	2.0	8.0	20	31
Wateree-----------	4e	FF	68	2.8	4.0	20	38
30E:							
Pacolet-----------	6e	X	---	---	4.0	---	---
Wateree-----------	6e	FF	---	---	4.0	---	---

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Pasture	Soybeans	Wheat
			Bu	Tons	AUM	Bu	Bu
31B:							
Pinoka------------	2e	JJ	65	3.0	5.0	20	40
Carbonton---------	4w	Y	100	3.5	6.5	35	48
31C:							
Pinoka------------	3e	JJ	57	2.6	5.0	18	35
Carbonton---------	4w	Y	88	3.1	6.5	31	42
31D:							
Pinoka------------	4e	JJ	52	2.4	5.0	16	32
Carbonton---------	4e	Y	80	2.8	6.5	28	44
32B:							
Poindexter--------	2e	FF	85	3.5	5.0	25	48
Wedowee-----------	2e	V	100	3.5	4.5	35	56
32C:							
Poindexter--------	3e	FF	75	3.1	5.0	22	42
Wedowee-----------	3e	V	88	3.1	4.5	31	49
32D:							
Poindexter--------	4e	FF	68	2.8	4.8	20	38
Wedowee-----------	4e	V	80	2.8	4.8	28	45
32E:							
Poindexter--------	6e	FF	---	---	4.2	---	---
Wedowee-----------	6e	V	---	---	4.2	---	---
33B:							
Rasalo------------	2e	Y	100	3.5	8.5	35	48
Halifax-----------	2e	KK	65	3.0	5.8	20	32
33C:							
Rasalo------------	3e	Y	88	3.1	8.5	31	42
Halifax-----------	3e	KK	57	2.6	5.0	18	28
34E:							
Rasalo------------	7s	Y	---	---	---	---	---
Spriggs-----------	7s	FF	---	---	---	---	---
35A:							
Riverview---------	1	G	140	4.5	10.0	40	64
Tuckahoe----------	1	A	160	4.5	8.0	50	64
36A:							
Sindion-----------	2w	A	160	4.5	8.3	50	64
37A:							
Speedwell---------	1	A	160	4.5	9.0	50	64

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Pasture	Soybeans	Wheat
			Bu	Tons	AUM	Bu	Bu
38B:							
Spriggs----------	2e	FF	85	3.5	5.0	25	48
Toast------------	2e	V	100	3.5	4.5	35	56
38C:							
Spriggs----------	3e	FF	75	3.1	5.0	22	42
Toast------------	3e	V	88	3.1	4.5	31	49
38D:							
Spriggs----------	4e	FF	68	2.8	4.8	20	38
Toast------------	4e	V	80	2.8	4.8	28	45
38E:							
Spriggs----------	6e	FF	---	---	3.5	---	---
Toast------------	6e	V	---	---	3.5	---	---
39B:							
State------------	2e	B	160	4.5	8.0	50	64
40A:							
Toccoa-----------	3w	II	65	0.0	6.5	20	48
41B:							
Trenholm---------	2e	KK	40	3.0	6.5	20	32
42C:							
Wateree----------	3e	FF	75	3.1	4.5	22	42
42D:							
Wateree----------	4e	FF	68	2.8	4.8	14	38
43A:							
Wehadkee---------	6w	MM	---	---	8.5	---	---
44B:							
Wintergreen-------	2e	O	130	4.0	3.3	40	64
45B:							
Worsham----------	4w	HH	85	3.0	7.2	25	48
W.							
Water							

Table 6.—Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland)

Map symbol	Map unit name
1B	Appling sandy loam, 2 to 7 percent slopes
3B	Banister fine sandy loam, 2 to 7 percent slopes, rarely flooded
4B	Bentley-Nathalie complex, 2 to 7 percent slopes
6B	Cecil sandy loam, 2 to 7 percent slopes
9B	Clifford sandy loam, 2 to 7 percent slopes
15A	Dogue fine sandy loam, 0 to 2 percent slopes, rarely flooded
15B	Dogue fine sandy loam, 2 to 7 percent slopes, rarely flooded
20B	Halifax sandy loam, 2 to 7 percent slopes
21B	Helena sandy loam, 2 to 7 percent slopes
23B	Mattaponi-Appling complex, 2 to 7 percent slopes
24B	Mayodan-Exway complex, 2 to 7 percent slopes
25B	Mecklenburg loam, 2 to 7 percent slopes
26B	Nathalie sandy loam, 2 to 7 percent slopes
28B	Oak Level-Diana Mills complex, 2 to 7 percent slopes
32B	Poindexter-Wedowee complex, 2 to 7 percent slopes
33B	Rasalo-Halifax complex, 2 to 7 percent slopes
35A	Riverview and Tuckahoe soils, 0 to 2 percent slopes, occasionally flooded
36A	Sindion silt loam, 0 to 2 percent slopes, occasionally flooded
37A	Speedwell loam, 0 to 2 percent slopes, occasionally flooded
38B	Spriggs-Toast complex, 2 to 7 percent slopes
39B	State fine sandy loam, 2 to 7 percent slopes, rarely flooded
44B	Wintergreen loam, 2 to 7 percent slopes

Table 7.—Agricultural Waste Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
1B:					
Appling-------------	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.34	Too acid	0.03
		Too acid	0.01		
2C:					
Appling-------------	55	Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37
		Low adsorption	0.34	Too acid	0.03
		Too acid	0.01		
Helena--------------	25	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Slope	0.37	Slope	0.37
3B:					
Banister------------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.32	Too acid	0.91
		Slow water movement	0.30	Flooding	0.40
4B:					
Bentley-------------	65	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.46	Depth to saturated zone	0.46
		Too acid	0.01	Too acid	0.03
Nathalie------------	25	Somewhat limited		Somewhat limited	
		Low adsorption	0.37	Too acid	0.03
		Too acid	0.01		
5B:					
Brickhaven----------	50	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Too acid	0.32	Slow water movement	1.00
				Too acid	0.91
Creedmoor-----------	35	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.01	Too acid	0.03

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
5C:					
Brickhaven----------	45	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Slope	0.37	Slow water movement	1.00
		Too acid	0.32	Too acid	0.91
Creedmoor-----------	30	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.37	Slope	0.37
6B:					
Cecil---------------	90	Somewhat limited		Very limited	
		Low adsorption	0.82	Too acid	1.00
		Too acid	0.68	Low adsorption	0.55
7C:					
Cecil---------------	85	Somewhat limited		Very limited	
		Low adsorption	0.85	Too acid	1.00
		Too acid	0.68	Low adsorption	0.70
		Slope	0.16	Slope	0.16
8A:					
Chewacla------------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.01	Too acid	0.03
Monacan-------------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.02	Too acid	0.07
9B:					
Clifford------------	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.24	Too acid	0.42
		Too acid	0.11	Low adsorption	0.01
10C:					
Clifford------------	90	Somewhat limited		Somewhat limited	
		Large stones content	0.53	Too acid	0.42
		Slope	0.37	Slope	0.37
		Low adsorption	0.24	Low adsorption	0.01
11C:					
Clifford------------	85	Somewhat limited		Somewhat limited	
		Low adsorption	0.62	Too acid	0.67
		Too acid	0.18	Low adsorption	0.58
		Slope	0.16	Slope	0.16

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
12A:					
Codorus	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.11	Too acid	0.42
13B:					
Delila	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Runoff	0.40	Too acid	0.91
14C:					
Devotion	85	Somewhat limited		Very limited	
		Droughty	0.93	Low adsorption	1.00
		Depth to bedrock	0.46	Droughty	0.93
		Too acid	0.32	Too acid	0.91
14D:					
Devotion	80	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.93	Slope	1.00
		Depth to bedrock	0.46	Droughty	0.93
15A:					
Dogue	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.95
		Slow water movement	0.30	Flooding	0.40
15B:					
Dogue	90	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.95
		Slow water movement	0.30	Flooding	0.40
16B:					
Enon	35	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Too acid	0.32	Too acid	0.91
Helena	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Too acid	0.01	Too acid	0.03

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
16C:					
Enon	35	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Slope	0.37	Too acid	0.91
		Too acid	0.32	Slope	0.37
Helena	25	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Slope	0.37	Slope	0.37
16D:					
Enon	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Too acid	0.32	Too acid	0.91
Helena	35	Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
17B:					
Enon	50	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Large stones content	0.53	Too acid	0.91
		Too acid	0.32		
Helena	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Large stones content	0.53	Too acid	0.03
17C:					
Enon	40	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Large stones content	0.53	Too acid	0.91
		Slope	0.37	Slope	0.37
Helena	25	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Large stones content	0.53	Slope	0.37

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
18D:					
Enon	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Large stones content	0.53	Too acid	0.91
Poindexter	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Large stones content	0.53	Slope	1.00
		Too acid	0.32	Too acid	0.91
19D:					
Fairview	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.71	Too acid	0.91
		Too acid	0.32	Low adsorption	0.62
Devotion	25	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.93	Slope	1.00
		Depth to bedrock	0.46	Droughty	0.93
19E:					
Fairview	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.71	Too acid	0.91
		Too acid	0.32	Low adsorption	0.62
Devotion	40	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.93	Slope	1.00
		Depth to bedrock	0.46	Droughty	0.93
20B:					
Halifax	80	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too acid	0.11	Too acid	0.42
20C:					
Halifax	80	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Slope	0.16	Too acid	0.42
21B:					
Helena	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Too acid	0.01	Too acid	0.03

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
21C:					
Helena	70	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Slope	0.37	Slope	0.37
22B:					
Jackland	55	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Runoff	0.40	Too acid	0.91
Mirerock	20	Somewhat limited		Very limited	
		Droughty	0.51	Low adsorption	1.00
		Slow water movement	0.50	Too acid	0.91
				Droughty	0.51
		Depth to bedrock	0.46		
23B:					
Mattaponi	65	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.46	Depth to saturated zone	0.46
		Slow water movement	0.30	Slow water movement	0.22
Appling	25	Somewhat limited		Somewhat limited	
		Low adsorption	0.34	Too acid	0.03
		Too acid	0.01		
24B:					
Mayodan	45	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
Exway	40	Somewhat limited		Very limited	
		Depth to bedrock	0.90	Low adsorption	1.00
		Droughty	0.71	Depth to bedrock	0.90
		Slow water movement	0.30	Droughty	0.71
24C:					
Mayodan	41	Somewhat limited		Somewhat limited	
		Slope	0.37	Too acid	0.91
		Too acid	0.32	Slope	0.37
Exway	40	Somewhat limited		Very limited	
		Depth to bedrock	0.90	Low adsorption	1.00
		Droughty	0.71	Depth to bedrock	0.90
		Slope	0.37	Droughty	0.71
25B:					
Mecklenburg	75	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Too acid	0.11	Too acid	0.42

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
25C:					
Mecklenburg	65	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Slope	0.37	Too acid	0.42
		Too acid	0.11	Slope	0.37
26B:					
Nathalie	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.37	Too acid	0.03
		Too acid	0.01		
27C:					
Nathalie	55	Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63
		Low adsorption	0.37	Too acid	0.03
		Too acid	0.01		
Halifax	25	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Slope	0.16	Too acid	0.42
28B:					
Oak Level	45	Somewhat limited		Somewhat limited	
		Slow water movement	0.30	Slow water movement	0.22
		Too acid	0.01	Too acid	0.03
Diana Mills	20	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Cobble content	0.12	Slow water movement	1.00
		Too acid	0.11	Too acid	0.42
29C:					
Oak Level	40	Somewhat limited		Somewhat limited	
		Slow water movement	0.30	Slow water movement	0.22
		Slope	0.16	Slope	0.16
		Too acid	0.01	Too acid	0.03
Siloam	25	Very limited		Very limited	
		Depth to bedrock	1.00	Droughty	1.00
		Droughty	1.00	Depth to bedrock	1.00
		Slope	0.63	Low adsorption	1.00
29D:					
Oak Level	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.30	Slow water movement	0.22
		Too acid	0.01	Too acid	0.03
Siloam	35	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Low adsorption	1.00

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
30D:					
Pacolet	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.79	Too acid	0.91
		Too acid	0.32	Low adsorption	0.66
Wateree	25	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.93	Slope	1.00
		Too acid	0.11	Droughty	0.93
30E:					
Pacolet	70	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.79	Too acid	0.91
		Too acid	0.32	Low adsorption	0.66
Wateree	20	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.93	Slope	1.00
		Too acid	0.11	Droughty	0.93
31B:					
Pinoka	45	Somewhat limited		Very limited	
		Droughty	0.84	Low adsorption	1.00
		Too acid	0.68	Too acid	1.00
		Depth to bedrock	0.46	Droughty	0.84
Carbonton	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Low adsorption	1.00
		Too acid	0.73	Slow water movement	1.00
31C:					
Pinoka	40	Somewhat limited		Very limited	
		Droughty	0.84	Low adsorption	1.00
		Too acid	0.68	Too acid	1.00
		Depth to bedrock	0.46	Droughty	0.84
Carbonton	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Low adsorption	1.00
		Too acid	0.73	Slow water movement	1.00
31D:					
Pinoka	30	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.84	Slope	1.00
		Too acid	0.68	Too acid	1.00
Carbonton	20	Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Low adsorption	1.00
		Depth to saturated zone	1.00	Slope	1.00

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
32B:					
Poindexter----------	60	Somewhat limited		Very limited	
		Too acid	0.32	Low adsorption	1.00
		Droughty	0.04	Too acid	0.91
		Depth to bedrock	0.01	Droughty	0.04
Wedowee-------------	25	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
		Low adsorption	0.10		
32C:					
Poindexter----------	50	Somewhat limited		Very limited	
		Slope	0.37	Low adsorption	1.00
		Too acid	0.32	Too acid	0.91
		Droughty	0.04	Slope	0.37
Wedowee-------------	30	Somewhat limited		Somewhat limited	
		Slope	0.37	Too acid	0.91
		Too acid	0.32	Slope	0.37
		Low adsorption	0.10		
32D:					
Poindexter----------	50	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Droughty	0.04	Too acid	0.91
Wedowee-------------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
		Low adsorption	0.10		
32E:					
Poindexter----------	60	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Droughty	0.04	Too acid	0.91
Wedowee-------------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
		Low adsorption	0.10		
33B:					
Rasalo--------------	35	Somewhat limited		Somewhat limited	
		Slow water movement	0.89	Too acid	0.91
		Too acid	0.32	Slow water movement	0.78
Halifax-------------	30	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too acid	0.11	Too acid	0.42

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
33C:					
Rasalo	35	Somewhat limited		Somewhat limited	
		Slow water movement	0.89	Too acid	0.91
		Slope	0.37	Slow water movement	0.78
		Too acid	0.32	Slope	0.37
Halifax	25	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Slope	0.16	Too acid	0.42
34E:					
Rasalo	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.89	Too acid	0.91
		Large stones content	0.53	Slow water movement	0.78
Spriggs	25	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Large stones content	0.53	Slope	1.00
		Too acid	0.32	Too acid	0.91
35A:					
Riverview	45	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
		Too acid	0.01	Too acid	0.03
Tuckahoe	40	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
36A:					
Sindion	85	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Flooding	1.00
		Flooding	0.60	Depth to saturated zone	0.95
37A:					
Speedwell	90	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
38B:					
Spriggs	60	Somewhat limited		Very limited	
		Too acid	0.32	Low adsorption	1.00
		Depth to bedrock	0.01	Too acid	0.91
				Depth to bedrock	0.01
Toast	25	Somewhat limited		Somewhat limited	
		Low adsorption	0.11	Too acid	0.03
		Too acid	0.01		

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
38C:					
Spriggs	50	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Too acid	0.32	Too acid	0.91
		Depth to bedrock	0.01	Slope	0.63
Toast	30	Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37
		Low adsorption	0.11	Too acid	0.03
		Too acid	0.01		
38D:					
Spriggs	50	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Depth to bedrock	0.01	Too acid	0.91
Toast	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.11	Too acid	0.03
		Too acid	0.01		
38E:					
Spriggs	60	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Depth to bedrock	0.01	Too acid	0.91
Toast	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.11	Too acid	0.03
		Too acid	0.01		
39B:					
State	85	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
				Flooding	0.40
40A:					
Toccoa	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.02	Too acid	0.03
		Too acid	0.01	Depth to saturated zone	0.02
41B:					
Trenholm	80	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Runoff	0.40	Too acid	0.91
42C:					
Wateree	85	Somewhat limited		Very limited	
		Droughty	0.93	Low adsorption	1.00
		Slope	0.63	Droughty	0.93
		Too acid	0.11	Slope	0.63

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
42D:					
Wateree-------------	80	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.93	Slope	1.00
		Too acid	0.11	Droughty	0.93
43A:					
Wehadkee------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Runoff	0.40	Too acid	0.42
44B:					
Wintergreen---------	90	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
45B:					
Worsham-------------	75	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Runoff	0.40	Too acid	0.91
W:					
Water---------------	100	Not rated		Not rated	

Table 7.—Agricultural Waste Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
1B:					
Appling	90	Somewhat limited		Very limited	
		Low adsorption	0.34	Seepage	1.00
		Too steep for surface application	0.32	Low adsorption	0.34
		Too acid	0.03	Too acid	0.03
2C:					
Appling	55	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.60	Too steep for surface application	0.94
		Low adsorption	0.34	Low adsorption	0.34
Helena	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.94
3B:					
Banister	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.91	Seepage	1.00
		Slow water movement	0.22	Too acid	0.91
4B:					
Bentley	65	Somewhat limited		Very limited	
		Depth to saturated zone	0.46	Seepage	1.00
		Too steep for surface application	0.32	Depth to saturated zone	0.46
		Too acid	0.03	Too acid	0.03
Nathalie	25	Somewhat limited		Very limited	
		Low adsorption	0.37	Seepage	1.00
		Too steep for surface application	0.32	Low adsorption	0.37
		Too acid	0.03	Too acid	0.03

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
5B:					
Brickhaven	50	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
		Too steep for surface application	0.08	Depth to bedrock	0.05
Creedmoor	35	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too steep for surface application	0.08	Too acid	0.03
5C:					
Brickhaven	45	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.94
		Too acid	0.91	Too acid	0.91
Creedmoor	30	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.94
6B:					
Cecil	90	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Low adsorption	0.82	Too acid	1.00
		Too steep for surface application	0.32	Low adsorption	0.82
7C:					
Cecil	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Low adsorption	0.85	Low adsorption	0.85
8A:					
Chewacla	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Too acid	0.03	Seepage	1.00

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
8A:					
Monacan	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Too acid	0.07	Seepage	1.00
9B:					
Clifford	90	Somewhat limited		Very limited	
		Too acid	0.42	Seepage	1.00
		Low adsorption	0.24	Too acid	0.42
		Too steep for surface application	0.08	Low adsorption	0.24
10C:					
Clifford	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.60	Too steep for surface application	0.94
		Too acid	0.42	Too acid	0.42
11C:					
Clifford	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.67	Too steep for surface application	0.78
		Low adsorption	0.62	Too acid	0.67
12A:					
Codorus	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Seepage	1.00
		Too acid	0.42	Depth to saturated zone	1.00
13B:					
Delila	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.91
		Too acid	0.91	Seepage	0.77
14C:					
Devotion	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Droughty	0.93	Depth to bedrock	1.00
		Too acid	0.91	Too acid	0.91

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
14D:					
Devotion	80	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Droughty	0.93	Too steep for surface application	1.00
15A:					
Dogue	80	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Depth to saturated zone	0.95	Too acid	1.00
		Slow water movement	0.22	Depth to saturated zone	0.95
15B:					
Dogue	90	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Depth to saturated zone	0.95	Too acid	1.00
		Too steep for surface application	0.32	Depth to saturated zone	0.95
16B:					
Enon	35	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
		Too steep for surface application	0.32		
Helena	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too steep for surface application	0.32	Too acid	0.03
16C:					
Enon	35	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.94
		Too acid	0.91	Too acid	0.91

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
16C:					
Helena	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.94
16D:					
Enon	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too acid	0.91
Helena	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to saturated zone	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
17B:					
Enon	50	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
		Too steep for surface application	0.32		
Helena	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too steep for surface application	0.32	Too acid	0.03
17C:					
Enon	40	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.94
		Too acid	0.91	Too acid	0.91

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
17C:					
Helena	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.94
18D:					
Enon	45	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too acid	0.91
Poindexter	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.91	Too steep for surface application	1.00
19D:					
Fairview	60	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
Devotion	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Droughty	0.93	Too steep for surface application	1.00
19E:					
Fairview	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
19E:					
Devotion	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Droughty	0.93	Too steep for surface application	1.00
20B:					
Halifax	80	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too acid	0.42	Too acid	0.42
20C:					
Halifax	80	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Too steep for surface application	0.78
					0.78
21B:					
Helena	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too steep for surface application	0.32	Too acid	0.03
21C:					
Helena	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.94
22B:					
Jackland	55	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
Mirerock	20	Somewhat limited		Very limited	
		Too acid	0.91	Depth to bedrock	1.00
		Droughty	0.51	Seepage	1.00
		Depth to bedrock	0.46	Too acid	0.91

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
23B:					
Mattaponi	65	Somewhat limited		Very limited	
		Depth to saturated zone	0.46	Seepage	1.00
		Too steep for surface application	0.32	Depth to saturated zone	0.46
		Slow water movement	0.22		
Appling	25	Somewhat limited		Very limited	
		Low adsorption	0.34	Seepage	1.00
		Too steep for surface application	0.32	Low adsorption	0.34
		Too acid	0.03	Too acid	0.03
24B:					
Mayodan	45	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.91
Exway	40	Somewhat limited		Very limited	
		Depth to bedrock	0.90	Depth to bedrock	1.00
		Droughty	0.71	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.03
24C:					
Mayodan	41	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	0.94
		Too steep for sprinkler application	0.60	Too acid	0.91
Exway	40	Very limited		Very limited	
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Depth to bedrock	0.90	Seepage	1.00
		Droughty	0.71	Too steep for surface application	0.94
25B:					
Mecklenburg	75	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too acid	0.42	Too acid	0.42
		Too steep for surface application	0.32		

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
25C:					
Mecklenburg	65	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.94
		Too steep for sprinkler application	0.60	Too acid	0.42
26B:					
Nathalie	90	Somewhat limited		Very limited	
		Low adsorption	0.37	Seepage	1.00
		Too steep for surface application	0.32	Low adsorption	0.37
		Too acid	0.03	Too acid	0.03
27C:					
Nathalie	55	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
		Low adsorption	0.37	Low adsorption	0.37
Halifax	25	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Too steep for surface application	0.78
28B:					
Oak Level	45	Somewhat limited		Very limited	
		Too steep for surface application	0.32	Seepage	1.00
		Slow water movement	0.22	Too acid	0.03
		Too acid	0.03		
Diana Mills	20	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too acid	0.42	Depth to bedrock	0.96
		Too steep for surface application	0.32	Cobble content	0.90

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
29C:					
Oak Level	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.40	Too steep for surface application	0.78
		Slow water movement	0.22	Too acid	0.03
Siloam	25	Very limited		Very limited	
		Droughty	1.00	Seepage	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
29D:					
Oak Level	45	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Slow water movement	0.22	Too acid	0.03
Siloam	35	Very limited		Very limited	
		Droughty	1.00	Seepage	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
30D:					
Pacolet	60	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
Wateree	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Droughty	0.93	Too steep for surface application	1.00

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
30E:					
Pacolet	70	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
Wateree	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Droughty	0.93	Too steep for surface application	1.00
31B:					
Pinoka	45	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Droughty	0.84	Depth to bedrock	1.00
		Depth to bedrock	0.46	Too acid	1.00
Carbonton	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Too acid	1.00	Seepage	1.00
31C:					
Pinoka	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Droughty	0.84	Too acid	1.00
Carbonton	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Seepage	1.0
31D:					
Pinoka	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	1.00	Too steep for surface application	1.00

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
31D:					
Carbonton-----------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
32B:					
Poindexter----------	60	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.32	Depth to bedrock	1.00
		Droughty	0.04	Too acid	0.91
Wedowee-------------	25	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.91
		Low adsorption	0.10	Low adsorption	0.10
32C:					
Poindexter----------	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Depth to bedrock	1.00
		Too steep for sprinkler application	0.60	Too steep for surface application	0.94
Wedowee-------------	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	0.94
		Too steep for sprinkler application	0.60	Too acid	0.91
32D:					
Poindexter----------	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.91	Too steep for surface application	1.00

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
32D:					
Wedowee	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
32E:					
Poindexter	60	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.91	Too steep for surface application	1.00
Wedowee	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
33B:					
Rasalo	35	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Slow water movement	0.78	Too acid	0.91
		Too steep for surface application	0.08		
Halifax	30	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too acid	0.42	Too acid	0.42
33C:					
Rasalo	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	0.94
		Slow water movement	0.78	Too acid	0.91

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
33C:					
Halifax	25	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Too steep for surface application	0.78
34E:					
Rasalo	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.91	Too acid	0.91
Spriggs	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.91	Too steep for surface application	1.00
35A:					
Riverview	45	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
		Too acid	0.03	Seepage	1.00
				Too acid	0.03
Tuckahoe	40	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
				Seepage	1.00
36A:					
Sindion	85	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Flooding	1.00
		Flooding	0.60	Seepage	1.00
				Depth to saturated zone	0.95
37A:					
Speedwell	90	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
				Seepage	1.00
38B:					
Spriggs	60	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.08	Depth to bedrock	1.00
		Depth to bedrock	0.01	Too acid	0.91

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
38B:					
Toast	25	Somewhat limited		Very limited	
		Too steep for surface application	0.32	Seepage	1.00
		Low adsorption	0.11	Low adsorption	0.11
		Too acid	0.03	Too acid	0.03
38C:					
Spriggs	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
Toast	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.60	Too steep for surface application	0.94
		Low adsorption	0.11	Low adsorption	0.11
38D:					
Spriggs	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.91	Too steep for surface application	1.00
Toast	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Low adsorption	0.11	Low adsorption	0.11
38E:					
Spriggs	60	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.91	Too steep for surface application	1.00

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
38E:					
Toast	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Low adsorption	0.11	Low adsorption	0.11
39B:					
State	85	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.08	Too acid	0.91
				Flooding	0.40
40A:					
Toccoa	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Too acid	0.03	Seepage	1.00
		Depth to saturated zone	0.02	Too acid	0.03
41B:					
Trenholm	80	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too acid	0.91	Too acid	0.91
42C:					
Wateree	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Droughty	0.93	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
42D:					
Wateree	80	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Droughty	0.93	Too steep for surface application	1.00
43A:					
Wehadkee	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Too acid	0.42	Seepage	1.00

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
44B:					
Wintergreen----------	90	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.91
45B:					
Worsham-------------	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
W:					
Water---------------	100	Not rated		Not rated	

Table 7.—Agricultural Waste Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
1B:					
Appling	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Low adsorption	0.34
		Slope	0.12	Too steep for surface application	0.32
		Too acid	0.07	Too acid	0.03
2C:					
Appling	55	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.94
		Too acid	0.07	Low adsorption	0.34
Helena	25	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.94
3B:					
Banister	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	0.91
				Slow water movement	0.15
4B:					
Bentley	65	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.46
		Depth to saturated zone	0.47	Too steep for surface application	0.32
		Slope	0.12	Too acid	0.03
Nathalie	25	Very limited		Somewhat limited	
		Slow water movement	1.00	Low adsorption	0.37
		Slope	0.12	Too steep for surface application	0.32
		Too acid	0.07	Too acid	0.03

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
5B:					
Brickhaven	50	Very limited		Somewhat limited	
		Slow water movement	1.00	Slow water movement	0.94
		Depth to bedrock	1.00	Too acid	0.91
		Too acid	0.07	Too steep for surface application	0.08
Creedmoor	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Too acid	0.07	Too steep for surface application	0.08
5C:					
Brickhaven	45	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00		
		Slope	1.00	Too steep for sprinkler irrigation	0.94
				Slow water movement	0.94
Creedmoor	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Slope	1.00	Too steep for surface application	1.00
6B:					
Cecil	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
				Low adsorption	0.82
		Slope	0.12	Too steep for surface application	0.32
		Too acid	0.07		
7C:					
Cecil	85	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.07	Too acid	1.00
				Low adsorption	0.85
8A:					
Chewacla	45	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.03

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
8A:					
Monacan	40	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.07
9B:					
Clifford	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.42
				Low adsorption	0.24
				Too steep for surface application	0.08
10C:					
Clifford	90	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.94
				Too acid	0.42
11C:					
Clifford	85	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.78
				Too acid	0.67
12A:					
Codorus	80	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.42
13B:					
Delila	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	0.94
		Too acid	0.07	Too acid	0.91
14C:					
Devotion	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too acid	0.91

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
14D:					
Devotion	80	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
15A:					
Dogue	80	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.95
		Too acid	0.14	Slow water movement	0.15
15B:					
Dogue	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.95
		Too acid	0.14	Too steep for surface application	0.32
16B:					
Enon	35	Very limited		Somewhat limited	
		Slow water movement	1.00	Slow water movement	0.94
		Slope	0.12	Too acid	0.91
				Too steep for surface application	0.32
Helena	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	0.94
		Slope	0.12	Too steep for surface application	0.32
16C:					
Enon	35	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.94
				Slow water movement	0.94

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
16C:					
Helena	25	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.94
16D:					
Enon	50	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.94
Helena	35	Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to saturated zone	1.00	Too steep for sprinkler irrigation	1.00
17B:					
Enon	50	Very limited		Somewhat limited	
		Slow water movement	1.00	Slow water movement	0.94
		Slope	0.12	Too acid	0.91
				Too steep for surface application	0.32
Helena	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	0.94
		Slope	0.12	Too steep for surface application	0.32
17C:					
Enon	40	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.94
				Slow water movement	0.94

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
17C:					
Helena	25	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too steep for surface application	1.00
		Slope	1.00		
				Too steep for sprinkler irrigation	0.94
18D:					
Enon	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
				Too steep for sprinkler irrigation	1.00
				Slow water movement	0.94
Poindexter	35	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
				Too steep for sprinkler irrigation	1.00
19D:					
Fairview	60	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Too acid	0.07	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Devotion	25	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	0.32		
				Too steep for sprinkler irrigation	1.00
19E:					
Fairview	50	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Too acid	0.07	Too steep for sprinkler irrigation	1.00
				Too acid	0.91

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
19E:					
Devotion	40	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
20B:					
Halifax	80	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Slow water movement	0.94
		Slope	0.12	Too acid	0.42
20C:					
Halifax	80	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
				Slow water movement	0.94
21B:					
Helena	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	0.94
		Slope	0.12	Too steep for surface application	0.32
21C:					
Helena	70	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too steep for surface application	1.00
		Slope	1.00		
				Too steep for sprinkler irrigation	0.94
22B:					
Jackland	55	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
				Too acid	0.91

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
22B:					
Mirerock	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too acid	0.91
				Slow water movement	0.26
23B:					
Mattaponi	65	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.46
		Depth to saturated zone	1.00	Too steep for surface application	0.32
		Slope	0.12	Slow water movement	0.15
Appling	25	Very limited		Somewhat limited	
		Slow water movement	1.00	Low adsorption	0.34
		Slope	0.12	Too steep for surface application	0.32
		Too acid	0.07	Too acid	0.03
24B:					
Mayodan	45	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Too steep for surface application	0.32
		Too acid	0.07		
Exway	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	0.32
		Slope	0.12	Slow water movement	0.15
24C:					
Mayodan	41	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.94
		Too acid	0.07	Too acid	0.91
Exway	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.94

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
25B:					
Mecklenburg----------	75	Very limited		Somewhat limited	
		Slow water movement	1.00	Slow water movement	0.94
		Slope	0.12	Too acid	0.42
				Too steep for surface application	0.32
25C:					
Mecklenburg----------	65	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00		
				Too steep for sprinkler irrigation	0.94
				Slow water movement	0.94
26B:					
Nathalie------------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Low adsorption	0.37
				Too steep for surface application	0.32
		Slope	0.12		
		Too acid	0.07		
				Too acid	0.03
27C:					
Nathalie------------	55	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.07	Too steep for sprinkler irrigation	1.00
				Low adsorption	0.37
Halifax-------------	25	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
				Slow water movement	0.94
28B:					
Oak Level-----------	45	Very limited		Somewhat limited	
		Slow water movement	1.00	Too steep for surface application	0.32
		Slope	0.12		
				Slow water movement	0.15
				Too acid	0.03
Diana Mills---------	20	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to bedrock	0.96
				Slow water movement	0.94
		Depth to bedrock	1.00		
		Cobble content	0.92	Too acid	0.42

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
29C:					
Oak Level	40	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.78
				Slow water movement	0.15
Siloam	25	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	1.00
29D:					
Oak Level	45	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.15
Siloam	35	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
30D:					
Pacolet	60	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.07	Too acid	0.91
Wateree	25	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
30E:					
Pacolet-------------	70	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.07	Too acid	0.91
Wateree-------------	20	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
31B:					
Pinoka--------------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too acid	1.00
		Slope	0.12	Too steep for surface application	0.32
Carbonton-----------	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too acid	1.00
31C:					
Pinoka--------------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too acid	1.00
Carbonton-----------	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
31D:					
Pinoka--------------	30	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
31D:					
Carbonton	20	Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Too steep for surface application	1.00
32B:					
Poindexter	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Too steep for surface application	0.32
Wedowee	25	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Too steep for surface application	0.32
		Too acid	0.07	Low adsorption	0.10
32C:					
Poindexter	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.94
Wedowee	30	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.94
		Too acid	0.07	Too acid	0.91
32D:					
Poindexter	50	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
Wedowee	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.07	Too acid	0.91

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
32E:					
Poindexter----------	60	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
Wedowee-------------	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.07	Too acid	0.91
33B:					
Rasalo--------------	35	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
				Slow water movement	0.60
				Too steep for surface application	0.08
Halifax-------------	30	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Slow water movement	0.94
		Slope	0.12	Too acid	0.42
33C:					
Rasalo--------------	35	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.94
				Too acid	0.91
Halifax-------------	25	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Slow water movement	0.94

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
34E:					
Rasalo	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	0.91
Spriggs	25	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
35A:					
Riverview	45	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Flooding	0.60
		Slow water movement	1.00	Too acid	0.03
		Flooding	0.60		
Tuckahoe	40	Very limited		Somewhat limited	
		Slow water movement	1.00	Flooding	0.60
		Flooding	0.60		
36A:					
Sindion	85	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.95
		Slow water movement	1.00	Flooding	0.60
		Flooding	0.60		
37A:					
Speedwell	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Flooding	0.60
		Flooding	0.60		
38B:					
Spriggs	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too acid	0.91
				Too steep for surface application	0.08
Toast	25	Very limited		Somewhat limited	
		Slow water movement	1.00	Too steep for surface application	0.32
		Slope	0.12	Low adsorption	0.11
		Too acid	0.07	Too acid	0.03

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
38C:					
Spriggs	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	1.00
Toast	30	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too steep for sprinkler irrigation	0.94
		Too acid	0.07	Low adsorption	0.11
38D:					
Spriggs	50	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
Toast	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.07	Low adsorption	0.11
38E:					
Spriggs	60	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
Toast	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.07	Low adsorption	0.11

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
39B:					
State	85	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Too acid	0.91
		Slow water movement	1.00	Too steep for surface application	0.08
40A:					
Toccoa	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Too acid	0.03
		Slow water movement	0.32	Depth to saturated zone	0.02
41B:					
Trenholm	80	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Slope	0.12	Too acid	0.91
42C:					
Wateree	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
42D:					
Wateree	80	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
43A:					
Wehadkee	90	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.42
44B:					
Wintergreen	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Too steep for surface application	0.32

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
45B:					
Worsham-------------	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
				Too acid	0.91
W:					
Water---------------	100	Not rated		Not rated	

Table 8.—Forestland Productivity

(Absence of an entry indicates information was not available)

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
1B:				
Appling	loblolly pine	84	114	loblolly pine, shortleaf pine
	scarlet oak	74	57	
	shortleaf pine	65	100	
	Virginia pine	74	114	
	white oak	64	43	
	yellow-poplar	88	86	
2C:				
Appling	loblolly pine	84	114	loblolly pine, shortleaf pine
	scarlet oak	74	57	
	shortleaf pine	65	100	
	Virginia pine	74	114	
	white oak	64	43	
	yellow-poplar	88	86	
Helena	black oak	---	---	loblolly pine, yellow-poplar
	hickory	---	---	
	loblolly pine	84	114	
	northern red oak	---	---	
	shortleaf pine	66	100	
	southern red oak	---	---	
	sweetgum	---	---	
	Virginia pine	---	---	
	white oak	---	---	
	yellow-poplar	---	---	
3B:				
Banister	loblolly pine	90	129	loblolly pine
	yellow-poplar	93	100	
	sweetgum	90	100	
	white oak	80	57	
	southern red oak	80	57	
4B:				
Bentley	loblolly pine	80	114	loblolly pine
	white oak	70	57	
	Virginia pine	70	114	
	sweetgum	76	72	
Nathalie	loblolly pine	84	114	loblolly pine
	yellow-poplar	88	86	
	white oak	64	43	
	Virginia pine	74	114	
	scarlet oak	74	57	
	shortleaf pine	65	100	
5B:				
Brickhaven	loblolly pine	86	123	loblolly pine, shortleaf pine
	shortleaf pine	69	108	
Creedmoor	loblolly pine	87	129	loblolly pine
	Virginia pine	64	100	
	yellow-poplar	97	100	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
5C:				
Brickhaven	loblolly pine	86	123	loblolly pine, shortleaf pine
	shortleaf pine	69	108	
Creedmoor	loblolly pine	87	129	loblolly pine
	Virginia pine	64	100	
	yellow-poplar	97	100	
6B:				
Cecil	loblolly pine	83	114	loblolly pine, shortleaf pine
	northern red oak	81	57	
	post oak	72	57	
	scarlet oak	81	57	
	shortleaf pine	69	114	
	southern red oak	79	57	
	sweetgum	76	72	
	Virginia pine	71	114	
	white oak	79	57	
	yellow-poplar	92	86	
7C:				
Cecil	loblolly pine	83	114	loblolly pine, shortleaf pine
	northern red oak	81	57	
	post oak	72	57	
	scarlet oak	81	57	
	shortleaf pine	69	114	
	southern red oak	79	57	
	sweetgum	76	72	
	Virginia pine	71	114	
	white oak	79	57	
	yellow-poplar	92	86	
8A:				
Chewacla	loblolly pine	95	143	American sycamore, loblolly pine, sweetgum, yellow-poplar
	sweetgum	97	129	
	water oak	80	72	
	yellow-poplar	95	100	
Monacan	loblolly pine	96	129	loblolly pine, yellow-poplar
	white oak	90	57	
	yellow-poplar	100	114	
9B:				
Clifford	loblolly pine	83	114	loblolly pine
	yellow-poplar	92	86	
	white oak	79	57	
	southern red oak	79	57	
	northern red oak	81	57	
	post oak	72	57	
	sweetgum	76	72	
	scarlet oak	81	57	
	Virginia pine	71	114	
	shortleaf pine	69	114	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
10C:				
Clifford	loblolly pine	83	114	loblolly pine, shortleaf pine
	northern red oak	81	57	
	post oak	72	57	
	scarlet oak	81	57	
	shortleaf pine	69	114	
	southern red oak	79	57	
	sweetgum	76	72	
	Virginia pine	71	114	
	white oak	79	57	
	yellow-poplar	92	86	
11C:				
Clifford	loblolly pine	83	114	loblolly pine
	yellow-poplar	92	86	
	white oak	79	57	
	southern red oak	79	57	
	northern red oak	81	57	
	post oak	72	57	
	sweetgum	76	72	
	scarlet oak	81	57	
	Virginia pine	71	114	
	shortleaf pine	69	114	
12A:				
Codorus	yellow-poplar	95	100	yellow-poplar
	loblolly pine	95	143	
	sweetgum	97	129	
	water oak	80	72	
13B:				
Delila	yellow-poplar	93	95	yellow-poplar
14C:				
Devotion	loblolly pine	85	114	loblolly pine
	northern red oak	60	43	
	Virginia pine	70	114	
	shortleaf pine	70	114	
14D:				
Devotion	loblolly pine	85	114	loblolly pine
	northern red oak	60	43	
	Virginia pine	70	114	
	shortleaf pine	70	114	
15A:				
Dogue	loblolly pine	90	129	loblolly pine
	southern red oak	80	57	
	sweetgum	90	100	
	white oak	80	57	
	yellow-poplar	93	100	
15B:				
Dogue	loblolly pine	90	129	loblolly pine
	southern red oak	80	57	
	sweetgum	90	100	
	white oak	80	57	
	yellow-poplar	93	100	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
16B:				
Enon	loblolly pine	73	100	loblolly pine
	shortleaf pine	63	100	
	sweetgum	87	100	
	yellow-poplar	88	86	
Helena	loblolly pine	84	114	loblolly pine, yellow-poplar
	shortleaf pine	66	100	
16C:				
Enon	loblolly pine	73	100	loblolly pine
	shortleaf pine	63	100	
	sweetgum	87	100	
	yellow-poplar	88	86	
Helena	loblolly pine	84	114	loblolly pine, yellow-poplar
	shortleaf pine	66	100	
16D:				
Enon	loblolly pine	73	100	loblolly pine
	shortleaf pine	63	100	
	sweetgum	87	100	
	yellow-poplar	88	86	
Helena	loblolly pine	84	114	loblolly pine, yellow-poplar
	shortleaf pine	66	100	
17B:				
Enon	loblolly pine	73	100	loblolly pine
	shortleaf pine	63	100	
	sweetgum	87	100	
	yellow-poplar	88	86	
Helena	loblolly pine	84	114	loblolly pine, yellow-poplar
	shortleaf pine	66	100	
17C:				
Enon	loblolly pine	73	100	loblolly pine
	shortleaf pine	63	100	
	sweetgum	87	100	
	yellow-poplar	88	86	
Helena	loblolly pine	84	114	loblolly pine, yellow-poplar
	shortleaf pine	66	100	
18D:				
Enon	loblolly pine	73	100	loblolly pine
	shortleaf pine	63	100	
	sweetgum	87	100	
	yellow-poplar	88	86	
Poindexter	loblolly pine	70	86	loblolly pine, shortleaf pine
	shortleaf pine	60	86	
	southern red oak	60	43	
	Virginia pine	65	100	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
19D:				
Fairview	loblolly pine	78	114	loblolly pine
	yellow-poplar	90	86	
	shortleaf pine	70	114	
Devotion	loblolly pine	85	114	loblolly pine
	northern red oak	60	43	
	Virginia pine	70	114	
	shortleaf pine	70	114	
19E:				
Fairview	loblolly pine	78	114	loblolly pine
	yellow-poplar	90	86	
	shortleaf pine	70	114	
Devotion	loblolly pine	85	114	loblolly pine
	northern red oak	60	43	
	Virginia pine	70	114	
	shortleaf pine	70	114	
20B:				
Halifax	loblolly pine	84	114	loblolly pine
	shortleaf pine	66	100	
20C:				
Halifax	loblolly pine	84	114	loblolly pine
	shortleaf pine	66	100	
21B:				
Helena	loblolly pine	84	114	loblolly pine, yellow-poplar
	shortleaf pine	66	100	
21C:				
Helena	loblolly pine	84	114	loblolly pine, yellow-poplar
	shortleaf pine	66	100	
22B:				
Jackland	Virginia pine	60	---	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	---	
	white oak	47	---	
	northern red oak	60	---	
	loblolly pine	70	---	
Mirerock	Virginia pine	65	---	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	---	
	white oak	65	---	
	northern red oak	60	---	
	loblolly pine	80	---	
23B:				
Mattaponi	loblolly pine	80	114	loblolly pine, shortleaf pine
	sweetgum	76	72	
	Virginia pine	70	114	
	white oak	70	57	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
23B:				
Appling	loblolly pine	84	114	loblolly pine, shortleaf pine
	scarlet oak	74	57	
	shortleaf pine	65	100	
	Virginia pine	74	114	
	white oak	64	43	
	yellow-poplar	88	86	
24B:				
Mayodan	loblolly pine	87	129	loblolly pine
	shortleaf pine	70	114	
	Virginia pine	60	86	
	white oak	54	43	
Exway	loblolly pine	74	100	loblolly pine, shortleaf pine
	shortleaf pine	75	114	
24C:				
Mayodan	loblolly pine	87	129	loblolly pine
	shortleaf pine	70	114	
	Virginia pine	60	86	
	white oak	54	43	
Exway	loblolly pine	74	100	loblolly pine, shortleaf pine
	shortleaf pine	75	114	
25B:				
Mecklenburg	loblolly pine	79	114	loblolly pine, shortleaf pine
	shortleaf pine	64	100	
	Virginia pine	62	100	
	yellow-poplar	97	100	
25C:				
Mecklenburg	loblolly pine	79	114	loblolly pine, shortleaf pine
	shortleaf pine	64	100	
	Virginia pine	62	100	
	yellow-poplar	97	100	
26B:				
Nathalie	loblolly pine	84	114	loblolly pine
	yellow-poplar	88	86	
	white oak	64	43	
	Virginia pine	74	114	
	scarlet oak	74	57	
	shortleaf pine	65	100	
27C:				
Nathalie	loblolly pine	84	114	loblolly pine
	yellow-poplar	88	86	
	white oak	64	43	
	Virginia pine	74	114	
	scarlet oak	74	57	
	shortleaf pine	65	100	
Halifax	loblolly pine	84	114	loblolly pine
	shortleaf pine	66	100	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
28B:				
Oak Level	loblolly pine	79	114	loblolly pine
	yellow-poplar	97	100	
	shortleaf pine	64	100	
	Virginia pine	62	100	
Diana Mills	loblolly pine	73	100	eastern redcedar, loblolly pine
	post oak	55	43	
	red maple	70	43	
	shortleaf pine	63	100	
	southern red oak	84	72	
	sweetgum	78	72	
	Virginia pine	63	100	
	white oak	69	57	
	yellow-poplar	88	86	
29C:				
Oak Level	loblolly pine	79	114	loblolly pine
	yellow-poplar	97	100	
	shortleaf pine	64	100	
	Virginia pine	62	100	
Siloam	shortleaf pine	60	88	shortleaf pine
29D:				
Oak Level	loblolly pine	79	114	loblolly pine
	yellow-poplar	97	100	
	shortleaf pine	64	100	
	Virginia pine	62	100	
Siloam	shortleaf pine	60	88	shortleaf pine
30D:				
Pacolet	loblolly pine	70	86	eastern white pine, loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	60	86	
	yellow-poplar	80	72	
Wateree	loblolly pine	77	100	loblolly pine, Virginia pine, yellow-poplar
	shortleaf pine	69	114	
	southern red oak	72	57	
	Virginia pine	71	114	
	white oak	68	57	
	yellow-poplar	84	86	
30E:				
Pacolet	loblolly pine	70	86	eastern white pine, loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	60	86	
	yellow-poplar	80	72	
Wateree	loblolly pine	77	100	loblolly pine, Virginia pine, yellow-poplar
	shortleaf pine	69	114	
	southern red oak	72	57	
	Virginia pine	71	114	
	white oak	68	57	
	yellow-poplar	84	86	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
31B:				
Pinoka	loblolly pine	81	112	loblolly pine, shortleaf pine
Carbonton	loblolly pine	81	112	loblolly pine, shortleaf pine
31C:				
Pinoka	loblolly pine	81	112	loblolly pine, shortleaf pine
Carbonton	loblolly pine	81	112	loblolly pine, shortleaf pine
31D:				
Pinoka	loblolly pine	81	112	loblolly pine, shortleaf pine
Carbonton	loblolly pine	81	112	loblolly pine, shortleaf pine
32B:				
Poindexter	loblolly pine	70	86	loblolly pine, shortleaf pine
	shortleaf pine	60	86	
	southern red oak	60	43	
	Virginia pine	65	100	
Wedowee	loblolly pine	80	114	loblolly pine, shortleaf pine, Virginia pine, yellow-poplar
	northern red oak	70	57	
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	white oak	65	43	
32C:				
Poindexter	loblolly pine	70	86	loblolly pine, shortleaf pine
	shortleaf pine	60	86	
	southern red oak	60	43	
	Virginia pine	65	100	
Wedowee	loblolly pine	80	114	loblolly pine, shortleaf pine, Virginia pine, yellow-poplar
	northern red oak	70	57	
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	white oak	65	43	
32D:				
Poindexter	loblolly pine	70	86	loblolly pine, shortleaf pine
	shortleaf pine	60	86	
	southern red oak	60	43	
	Virginia pine	65	100	
Wedowee	loblolly pine	80	114	loblolly pine, shortleaf pine, Virginia pine, yellow-poplar
	northern red oak	70	57	
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	white oak	65	43	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
32E:				
Poindexter	loblolly pine	70	86	loblolly pine, shortleaf pine
	shortleaf pine	60	86	
	southern red oak	60	43	
	Virginia pine	65	100	
Wedowee	loblolly pine	80	114	loblolly pine, shortleaf pine, Virginia pine, yellow-poplar
	northern red oak	70	57	
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	white oak	65	43	
33B:				
Rasalo	loblolly pine	73	100	loblolly pine
	sweetgum	87	100	
	yellow-poplar	88	86	
	shortleaf pine	63	100	
Halifax	loblolly pine	84	114	loblolly pine
	shortleaf pine	66	100	
33C:				
Rasalo	loblolly pine	73	100	loblolly pine
	sweetgum	87	100	
	yellow-poplar	88	86	
	shortleaf pine	63	100	
Halifax	loblolly pine	84	114	loblolly pine
	shortleaf pine	66	100	
34E:				
Rasalo	loblolly pine	73	100	loblolly pine
	shortleaf pine	63	100	
	sweetgum	87	100	
	yellow-poplar	88	86	
Spriggs	Virginia pine	65	---	loblolly pine, eastern white pine, Virginia pine
	yellow-poplar	70	---	
	northern red oak	62	---	
	loblolly pine	75	---	
35A:				
Riverview	loblolly pine	100	157	American sycamore, eastern cottonwood, loblolly pine, sweetgum, yellow-poplar
	sweetgum	100	143	
	yellow-poplar	110	129	
Tuckahoe	loblolly pine	96	129	black walnut, eastern white pine, loblolly pine, yellow-poplar
	white oak	90	57	
	yellow-poplar	100	114	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
36A:				
Sindion	northern red oak	80	57	eastern white pine, shortleaf pine, yellow-poplar
	Virginia pine	70	114	
	yellow-poplar	95	100	
37A:				
Speedwell	northern red oak	80	57	black walnut, eastern white pine, yellow-poplar
	yellow-poplar	90	86	
38B:				
Spriggs	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
Toast	loblolly pine	80	114	loblolly pine
	Virginia pine	70	114	
	shortleaf pine	68	106	
	white oak	62	45	
	southern red oak	70	57	
	northern red oak	64	47	
38C:				
Spriggs	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
Toast	loblolly pine	80	114	loblolly pine
	Virginia pine	70	114	
	shortleaf pine	68	106	
	white oak	62	45	
	southern red oak	70	57	
	northern red oak	64	47	
38D:				
Spriggs	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
Toast	loblolly pine	80	114	loblolly pine
	Virginia pine	70	114	
	shortleaf pine	68	106	
	white oak	62	45	
	southern red oak	70	57	
	northern red oak	64	47	
38E:				
Spriggs	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
38E:				
Toast	loblolly pine	80	114	loblolly pine
	Virginia pine	70	114	
	shortleaf pine	68	106	
	white oak	62	45	
	southern red oak	70	57	
	northern red oak	64	47	
39B:				
State	loblolly pine	86	129	black walnut, loblolly pine, yellow-poplar
	southern red oak	85	72	
	Virginia pine	85	129	
	yellow-poplar	100	114	
40A:				
Toccoa	loblolly pine	90	129	American sycamore, cherrybark oak, loblolly pine, yellow-poplar
	sweetgum	100	143	
	yellow-poplar	107	114	
41B:				
Trenholm	northern red oak	60	43	loblolly pine
	southern red oak	60	43	
	Virginia pine	75	114	
	white oak	60	43	
42C:				
Wateree	loblolly pine	77	100	loblolly pine, Virginia pine, yellow-poplar
	shortleaf pine	69	114	
	southern red oak	72	57	
	Virginia pine	71	114	
	white oak	68	57	
	yellow-poplar	84	86	
42D:				
Wateree	loblolly pine	77	100	loblolly pine, Virginia pine, yellow-poplar
	shortleaf pine	69	114	
	southern red oak	72	57	
	Virginia pine	71	114	
	white oak	68	57	
	yellow-poplar	84	86	
43A:				
Wehadkee	loblolly pine	93	143	green ash, loblolly pine, sweetgum, yellow-poplar
	sweetgum	94	114	
	water oak	91	86	
	willow oak	110	114	
	yellow-poplar	100	114	
44B:				
Wintergreen	eastern white pine	95	172	eastern white pine, yellow-poplar
	northern red oak	80	57	
	yellow-poplar	90	86	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
45B:				
Worsham	loblolly pine	88	129	eastern white pine, loblolly pine, yellow-poplar
	pin oak	85	72	
	southern red oak	80	57	
	Virginia pine	80	114	
	yellow-poplar	91	86	
W. Water				

Table 9.—Forestland Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B:							
Appling-------------	90	Slight		Well suited		Moderate	
						Low strength	0.50
2C:							
Appling-------------	55	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Helena--------------	25	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
				Wetness	0.50		
3B:							
Banister------------	80	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
4B:							
Bentley-------------	65	Slight		Well suited		Moderate	
						Low strength	0.50
Nathalie------------	25	Slight		Well suited		Moderate	
						Low strength	0.50
5B:							
Brickhaven----------	50	Slight		Well suited		Moderate	
						Low strength	0.50
Creedmoor-----------	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
5C:							
Brickhaven----------	45	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Creedmoor-----------	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
				Wetness	0.50		
6B:							
Cecil---------------	90	Slight		Well suited		Moderate	
						Low strength	0.50
7C:							
Cecil---------------	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
8A:							
Chewacla------------	45	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	0.50		
				Low strength	0.50		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
8A:							
Monacan-------------	40	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	1.00		
		Stickiness/slope	0.50	Low strength	0.50		
9B:							
Clifford-----------	90	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50
10C:							
Clifford-----------	90	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
11C:							
Clifford-----------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
12A:							
Codorus-------------	80	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	0.50		
				Low strength	0.50		
13B:							
Delila--------------	80	Severe		Poorly suited		Moderate	
		Wetness	1.00	Wetness	1.00	Low strength	0.50
14C:							
Devotion-----------	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
14D:							
Devotion-----------	80	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
		Restrictive layer	0.50				
15A:							
Dogue---------------	80	Slight		Well suited		Moderate	
						Low strength	0.50
15B:							
Dogue---------------	90	Slight		Well suited		Moderate	
						Low strength	0.50
16B:							
Enon----------------	35	Slight		Well suited		Moderate	
						Low strength	0.50
Helena--------------	30	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
16C:							
Enon----------------	35	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Helena--------------	25	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
				Wetness	0.50		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
16D:							
Enon	50	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Helena	35	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
				Wetness	0.50		
17B:							
Enon	50	Slight		Well suited		Moderate	
						Low strength	0.50
Helena	40	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
17C:							
Enon	40	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Helena	25	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
				Wetness	0.50		
18D:							
Enon	45	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Poindexter	35	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
19D:							
Fairview	60	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Devotion	25	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
		Restrictive layer	0.50				
19E:							
Fairview	50	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Devotion	40	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
20B:							
Halifax	80	Slight		Well suited		Moderate	
						Low strength	0.50
20C:							
Halifax	80	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
21B:							
Helena	80	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
21C:							
Helena	70	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
				Wetness	0.50		
22B:							
Jackland	55	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Mirerock	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
23B:							
Mattaponi	65	Slight		Well suited		Moderate	
						Low strength	0.50
Appling	25	Slight		Well suited		Moderate	
						Low strength	0.50
24B:							
Mayodan	45	Slight		Well suited		Moderate	
						Low strength	0.50
Exway	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
24C:							
Mayodan	41	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Exway	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
25B:							
Mecklenburg	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
25C:							
Mecklenburg	65	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
26B:							
Nathalie	90	Slight		Well suited		Moderate	
						Low strength	0.50
27C:							
Nathalie	55	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Halifax	25	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
28B:							
Oak Level-----------	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Diana Mills---------	20	Slight		Moderately suited		Severe	
				Low strength	0.50	Low strength	1.00
29C:							
Oak Level-----------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Siloam--------------	25	Moderate		Moderately suited		Moderate	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.50
29D:							
Oak Level-----------	45	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
Siloam--------------	35	Severe		Poorly suited		Moderate	
		Restrictive layer	1.00	Slope	1.00	Low strength	0.50
		Slope	0.50				
30D:							
Pacolet-------------	60	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Wateree-------------	25	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
		Restrictive layer	0.50				
30E:							
Pacolet-------------	70	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Wateree-------------	20	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
31B:							
Pinoka--------------	45	Slight		Well suited		Moderate	
						Low strength	0.50
Carbonton-----------	30	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Wetness	0.50	Low strength	0.50
31C:							
Pinoka--------------	40	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Carbonton-----------	30	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
				Wetness	0.50		
31D:							
Pinoka--------------	30	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
31D:							
Carbonton-----------	20	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
				Wetness	0.50		
32B:							
Poindexter----------	60	Slight		Well suited		Moderate	
						Low strength	0.50
Wedowee-------------	25	Slight		Well suited		Moderate	
						Low strength	0.50
32C:							
Poindexter----------	50	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Wedowee-------------	30	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
32D:							
Poindexter----------	50	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Wedowee-------------	30	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
32E:							
Poindexter----------	60	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Wedowee-------------	30	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
33B:							
Rasalo--------------	35	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50
Halifax-------------	30	Slight		Well suited		Moderate	
						Low strength	0.50
33C:							
Rasalo--------------	35	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
Halifax-------------	25	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
34E:							
Rasalo--------------	35	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Spriggs-------------	25	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
35A:							
Riverview-----------	45	Moderate		Moderately suited		Severe	
		Flooding	0.50	Flooding	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
35A:							
Tuckahoe------------	40	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
36A:							
Sindion-------------	85	Moderate		Moderately suited		Severe	
		Flooding	0.50	Flooding	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
37A:							
Speedwell-----------	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
38B:							
Spriggs-------------	60	Slight		Well suited		Moderate	
						Low strength	0.50
Toast---------------	25	Slight		Well suited		Moderate	
						Low strength	0.50
38C:							
Spriggs-------------	50	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Toast---------------	30	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
38D:							
Spriggs-------------	50	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Toast---------------	30	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
38E:							
Spriggs-------------	60	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Toast---------------	30	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
39B:							
State---------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
40A:							
Toccoa--------------	90	Severe		Poorly suited		Moderate	
		Flooding	1.00	Flooding	1.00	Low strength	0.50
41B:							
Trenholm------------	80	Slight		Well suited		Moderate	
						Low strength	0.50
42C:							
Wateree-------------	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42D:							
Wateree-------------	80	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
		Restrictive layer	0.50				
43A:							
Wehadkee------------	90	Severe		Poorly suited		Moderate	
		Flooding	1.00	Flooding	1.00	Low strength	0.50
				Wetness	1.00		
44B:							
Wintergreen---------	90	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50
45B:							
Worsham-------------	75	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	1.00
				Low strength	0.50		
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 9.—Forestland Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
1B:							
Appling-------------	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
2C:							
Appling-------------	55	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Helena--------------	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Wetness	0.50
3B:							
Banister------------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
4B:							
Bentley-------------	65	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Nathalie------------	25	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
5B:							
Brickhaven----------	50	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Creedmoor-----------	35	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
5C:							
Brickhaven----------	45	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Creedmoor-----------	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
6B:							
Cecil---------------	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
7C:							
Cecil---------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
8A:							
Chewacla------------	45	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Low strength	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
8A:							
Monacan	40	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
9B:							
Clifford	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
10C:							
Clifford	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
11C:							
Clifford	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
12A:							
Codorus	80	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Low strength	0.50
13B:							
Delila	80	Slight		Slight		Poorly suited	
						Wetness	1.00
14C:							
Devotion	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
14D:							
Devotion	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
15A:							
Dogue	80	Slight		Slight		Well suited	
15B:							
Dogue	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
16B:							
Enon	35	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Helena	30	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
16C:							
Enon	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Helena	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Wetness	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
16D:							
Enon	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Helena	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Wetness	0.50
17B:							
Enon	50	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Helena	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
17C:							
Enon	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Helena	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Wetness	0.50
18D:							
Enon	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Poindexter	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
19D:							
Fairview	60	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Devotion	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
19E:							
Fairview	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Devotion	40	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
20B:							
Halifax	80	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
20C:							
Halifax	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
21B:							
Helena	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
21C:							
Helena	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Wetness	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
22B:							
Jackland------------	55	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
Mirerock------------	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
23B:							
Mattaponi-----------	65	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Appling-------------	25	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
24B:							
Mayodan-------------	45	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Exway---------------	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
24C:							
Mayodan-------------	41	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Exway---------------	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Low strength	0.50
25B:							
Mecklenburg---------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
25C:							
Mecklenburg---------	65	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Low strength	0.50
26B:							
Nathalie------------	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
27C:							
Nathalie------------	55	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Halifax-------------	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
28B:							
Oak Level-----------	45	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Diana Mills---------	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
29C:							
Oak Level-----------	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Siloam--------------	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
29D:							
Oak Level-----------	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Siloam--------------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
30D:							
Pacolet-------------	60	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Wateree-------------	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
30E:							
Pacolet-------------	70	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Wateree-------------	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
31B:							
Pinoka--------------	45	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Carbonton-----------	30	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
31C:							
Pinoka--------------	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Carbonton-----------	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
31D:							
Pinoka--------------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Carbonton-----------	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Wetness	0.50
32B:							
Poindexter----------	60	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Wedowee-------------	25	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
32C:							
Poindexter	50	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Wedowee	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
32D:							
Poindexter	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Wedowee	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
32E:							
Poindexter	60	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
Wedowee	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
33B:							
Rasalo	35	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Halifax	30	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
33C:							
Rasalo	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Halifax	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
34E:							
Rasalo	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Spriggs	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
35A:							
Riverview	45	Slight		Slight		Moderately suited	
						Flooding	0.50
						Low strength	0.50
Tuckahoe	40	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
36A:							
Sindion	85	Slight		Slight		Moderately suited	
						Flooding	0.50
						Low strength	0.50
37A:							
Speedwell	90	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
38B:							
Spriggs	60	Slight		Slight		Well suited	
Toast	25	Slight		Moderate Slope/erodibility	 0.50	Well suited	
38C:							
Spriggs	50	Slight		Moderate Slope/erodibility	 0.50	Moderately suited Slope	 0.50
Toast	30	Slight		Severe Slope/erodibility	 0.95	Moderately suited Slope	 0.50
38D:							
Spriggs	50	Moderate Slope/erodibility	 0.50	Severe Slope/erodibility	 0.95	Poorly suited Slope	 1.00
Toast	30	Moderate Slope/erodibility	 0.50	Severe Slope/erodibility	 0.95	Poorly suited Slope	 1.00
38E:							
Spriggs	60	Moderate Slope/erodibility	 0.50	Severe Slope/erodibility	 0.95	Poorly suited Slope	 1.00
Toast	30	Severe Slope/erodibility	 0.75	Severe Slope/erodibility	 0.95	Poorly suited Slope	 1.00
39B:							
State	85	Slight		Moderate Slope/erodibility	 0.50	Moderately suited Low strength	 0.50
40A:							
Toccoa	90	Slight		Slight		Poorly suited Flooding	 1.00
41B:							
Trenholm	80	Slight		Moderate Slope/erodibility	 0.50	Well suited	
42C:							
Wateree	85	Slight		Severe Slope/erodibility	 0.95	Moderately suited Slope	 0.50
42D:							
Wateree	80	Moderate Slope/erodibility	 0.50	Severe Slope/erodibility	 0.95	Poorly suited Slope	 1.00
43A:							
Wehadkee	90	Slight		Slight		Poorly suited Flooding Wetness	 1.00 1.00
44B:							
Wintergreen	90	Slight		Moderate Slope/erodibility	 0.50	Well suited	
45B:							
Worsham	75	Slight		Slight		Poorly suited Wetness Low strength	 1.00 0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
W:							
Water	100	Not rated		Not rated		Not rated	

Table 9.—Forestland Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
1B:							
Appling	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
2C:							
Appling	55	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Helena	25	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
3B:							
Banister	80	Well suited		Well suited		Well suited	
4B:							
Bentley	65	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Nathalie	25	Well suited		Moderately suited		Well suited	
				Slope	0.50		
5B:							
Brickhaven	50	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
Creedmoor	35	Well suited		Well suited		Moderately suited	
						Low strength	0.50
5C:							
Brickhaven	45	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
Creedmoor	30	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
6B:							
Cecil	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
7C:							
Cecil	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
8A:							
Chewacla	45	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Monacan	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
9B:							
Clifford	90	Well suited		Well suited		Well suited	
10C:							
Clifford	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
11C:							
Clifford	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
12A:							
Codorus	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
13B:							
Delila	80	Moderately suited		Moderately suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Wetness	1.00
14C:							
Devotion	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
14D:							
Devotion	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
15A:							
Dogue	80	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
15B:							
Dogue	90	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Slope	0.50		
				Stickiness; high plasticity index	0.50		
16B:							
Enon	35	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
Helena	30	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
16C:							
Enon	35	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
Helena	25	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
16D:							
Enon	50	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Slope	0.50
				Stickiness; high plasticity index	0.75		
Helena	35	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Slope	0.50
				Stickiness; high plasticity index	0.75		
17B:							
Enon	50	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Rock fragments	0.50		
				Slope	0.50		
Helena	40	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Rock fragments	0.50		
				Slope	0.50		
17C:							
Enon	40	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
				Rock fragments	0.50		
Helena	25	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
				Rock fragments	0.50		
18D:							
Enon	45	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Slope	0.50
				Stickiness; high plasticity index	0.75		
				Rock fragments	0.50		
Poindexter	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
19D:							
Fairview	60	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
Devotion	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
19E:							
Fairview	50	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
19E:							
Devotion------------	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
20B:							
Halifax-------------	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
20C:							
Halifax-------------	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
21B:							
Helena--------------	80	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
21C:							
Helena--------------	70	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
22B:							
Jackland------------	55	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
Mirerock------------	20	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
23B:							
Mattaponi-----------	65	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Appling-------------	25	Well suited		Moderately suited		Well suited	
				Slope	0.50		
24B:							
Mayodan-------------	45	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
				Rock fragments	0.50		
Exway---------------	40	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
24C:							
Mayodan-------------	41	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
				Rock fragments	0.50		

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
24C:							
Exway	40	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
25B:							
Mecklenburg	75	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
25C:							
Mecklenburg	65	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
26B:							
Nathalie	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
27C:							
Nathalie	55	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Halifax	25	Well suited		Moderately suited		Well suited	
				Slope	0.50		
28B:							
Oak Level	45	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
Diana Mills	20	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Rock fragments	0.75	Low strength	0.50
		Rock fragments	0.50	Stickiness; high plasticity index	0.75		
				Slope	0.50		
29C:							
Oak Level	40	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
Siloam	25	Well suited		Moderately suited		Well suited	
				Slope	0.50		
29D:							
Oak Level	45	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
Siloam	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
30D:							
Pacolet	60	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
Wateree	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
30E:							
Pacolet	70	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
Wateree	20	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
31B:							
Pinoka	45	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
Carbonton	30	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
31C:							
Pinoka	40	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
Carbonton	30	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
31D:							
Pinoka	30	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
Carbonton	20	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Slope	0.50
				Stickiness; high plasticity index	0.75		
32B:							
Poindexter	60	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Wedowee	25	Well suited		Moderately suited		Well suited	
				Slope	0.50		
32C:							
Poindexter	50	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Wedowee	30	Well suited		Moderately suited		Well suited	
				Slope	0.50		

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
32D:							
Poindexter----------	50	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
Wedowee-------------	30	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
32E:							
Poindexter----------	60	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
Wedowee-------------	30	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
33B:							
Rasalo--------------	35	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
Halifax-------------	30	Well suited		Moderately suited		Well suited	
				Slope	0.50		
33C:							
Rasalo--------------	35	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
Halifax-------------	25	Well suited		Moderately suited		Well suited	
				Slope	0.50		
34E:							
Rasalo--------------	35	Poorly suited		Unsuited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	1.00	Slope	0.50
				Stickiness; high plasticity index	0.75		
				Rock fragments	0.50		
Spriggs-------------	25	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
				Rock fragments	0.50		
35A:							
Riverview-----------	45	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Tuckahoe------------	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
36A:							
Sindion-------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
37A:							
Speedwell-----------	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
38B:							
Spriggs	60	Well suited		Well suited		Well suited	
Toast	25	Well suited		Moderately suited		Well suited	
				Slope	0.50		
38C:							
Spriggs	50	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Toast	30	Well suited		Moderately suited		Well suited	
				Slope	0.50		
38D:							
Spriggs	50	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
Toast	30	Well suited		Poorly suited		Well suited	
				Slope	0.75		
38E:							
Spriggs	60	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
Toast	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
39B:							
State	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
40A:							
Toccoa	90	Well suited		Well suited		Well suited	
41B:							
Trenholm	80	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
42C:							
Wateree	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
42D:							
Wateree	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
43A:							
Wehadkee	90	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
44B:							
Wintergreen	90	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
45B:							
Worsham-------------	75	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 9.—Forestland Management, Part IV

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1B:					
Appling	90	Well suited		Well suited	
2C:					
Appling	55	Well suited		Well suited	
Helena	25	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
3B:					
Banister	80	Well suited		Well suited	
4B:					
Bentley	65	Well suited		Well suited	
Nathalie	25	Well suited		Well suited	
5B:					
Brickhaven	50	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Creedmoor	35	Well suited		Well suited	
5C:					
Brickhaven	45	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Creedmoor	30	Well suited		Well suited	
6B:					
Cecil	90	Well suited		Well suited	
7C:					
Cecil	85	Well suited		Well suited	
8A:					
Chewacla	45	Well suited		Well suited	
Monacan	40	Well suited		Well suited	
9B:					
Clifford	90	Well suited		Well suited	
10C:					
Clifford	90	Well suited		Well suited	
11C:					
Clifford	85	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
12A:					
Codorus	80	Well suited		Well suited	
13B:					
Delila	80	Poorly suited		Unsuited	
		Stickiness; high plasticity index	0.50	Wetness	1.00
14C:					
Devotion	85	Well suited		Unsuited	
				Restrictive layer	1.00
14D:					
Devotion	80	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
				Slope	0.50
15A:					
Dogue	80	Well suited		Well suited	
15B:					
Dogue	90	Well suited		Well suited	
16B:					
Enon	35	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Helena	30	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
16C:					
Enon	35	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Helena	25	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
16D:					
Enon	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
Helena	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
17B:					
Enon	50	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Helena	40	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
17C:					
Enon----------------	40	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Helena--------------	25	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
18D:					
Enon----------------	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
Poindexter----------	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
19D:					
Fairview------------	60	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Devotion------------	25	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
				Slope	0.50
19E:					
Fairview------------	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Devotion------------	40	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
				Slope	1.00
20B:					
Halifax-------------	80	Well suited		Well suited	
20C:					
Halifax-------------	80	Well suited		Well suited	
21B:					
Helena--------------	80	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
21C:					
Helena--------------	70	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
22B:					
Jackland------------	55	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Mirerock------------	20	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
23B:					
Mattaponi-----------	65	Well suited		Well suited	
Appling-------------	25	Well suited		Well suited	
24B:					
Mayodan-------------	45	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Exway---------------	40	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
24C:					
Mayodan-------------	41	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Exway---------------	40	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
25B:					
Mecklenburg---------	75	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
25C:					
Mecklenburg---------	65	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
26B:					
Nathalie------------	90	Well suited		Well suited	
27C:					
Nathalie------------	55	Well suited		Well suited	
Halifax-------------	25	Well suited		Well suited	
28B:					
Oak Level-----------	45	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Diana Mills---------	20	Poorly suited		Well suited	
		Rock fragments	0.50		
		Stickiness; high plasticity index	0.50		
29C:					
Oak Level-----------	40	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Siloam--------------	25	Well suited		Poorly suited	
				Restrictive layer	0.50

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
29D:					
Oak Level-----------	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
Siloam-------------	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
				Restrictive layer	0.50
30D:					
Pacolet------------	60	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Wateree------------	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
30E:					
Pacolet------------	70	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Wateree------------	20	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
31B:					
Pinoka-------------	45	Well suited		Well suited	
Carbonton----------	30	Poorly suited		Unsuited	
		Stickiness; high plasticity index	0.50	Restrictive layer	1.00
31C:					
Pinoka-------------	40	Well suited		Well suited	
Carbonton----------	30	Poorly suited		Unsuited	
		Stickiness; high plasticity index	0.50	Restrictive layer	1.00
31D:					
Pinoka-------------	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Carbonton----------	20	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
		Stickiness; high plasticity index	0.50	Slope	0.50
32B:					
Poindexter---------	60	Well suited		Well suited	
Wedowee------------	25	Well suited		Well suited	
32C:					
Poindexter---------	50	Well suited		Well suited	
Wedowee------------	30	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
32D:					
Poindexter----------	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Wedowee------------	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
32E:					
Poindexter----------	60	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Wedowee------------	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
33B:					
Rasalo--------------	35	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Halifax------------	30	Well suited		Well suited	
33C:					
Rasalo--------------	35	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Halifax------------	25	Well suited		Well suited	
34E:					
Rasalo--------------	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
Spriggs------------	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
35A:					
Riverview-----------	45	Well suited		Well suited	
Tuckahoe-----------	40	Well suited		Well suited	
36A:					
Sindion-------------	85	Well suited		Well suited	
37A:					
Speedwell-----------	90	Well suited		Well suited	
38B:					
Spriggs------------	60	Well suited		Well suited	
Toast---------------	25	Well suited		Well suited	
38C:					
Spriggs------------	50	Well suited		Well suited	
Toast---------------	30	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
38D:					
Spriggs-------------	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Toast---------------	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
38E:					
Spriggs-------------	60	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Toast---------------	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
39B:					
State---------------	85	Well suited		Well suited	
40A:					
Toccoa--------------	90	Well suited		Well suited	
41B:					
Trenholm------------	80	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
42C:					
Wateree-------------	85	Well suited		Well suited	
42D:					
Wateree-------------	80	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
43A:					
Wehadkee------------	90	Well suited		Well suited	
44B:					
Wintergreen---------	90	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
45B:					
Worsham-------------	75	Well suited		Well suited	
W:					
Water---------------	100	Not rated		Not rated	

Table 9.—Forestland Management, Part V

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1B:					
Appling	90	Moderate		Low	
		Texture/rock fragments	0.50		
2C:					
Appling	55	Moderate		Low	
		Texture/rock fragments	0.50		
Helena	25	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
3B:					
Banister	80	Moderate		Low	
		Texture/rock fragments	0.50		
4B:					
Bentley	65	High		Low	
		Texture/rock fragments	1.00		
Nathalie	25	Moderate		Low	
		Texture/rock fragments	0.50		
5B:					
Brickhaven	50	Moderate		Low	
		Texture/rock fragments	0.50		
Creedmoor	35	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
5C:					
Brickhaven	45	Moderate		Low	
		Texture/rock fragments	0.50		
Creedmoor	30	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
6B:					
Cecil	90	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
7C:					
Cecil	85	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
8A:					
Chewacla	45	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Monacan	40	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
9B:					
Clifford	90	Moderate		Low	
		Texture/rock fragments	0.50		
10C:					
Clifford	90	Moderate		Low	
		Texture/rock fragments	0.50		
11C:					
Clifford	85	Low		Low	
12A:					
Codorus	80	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
13B:					
Delila	80	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
14C:					
Devotion	85	Low		Low	
		Texture/rock fragments	0.10		
14D:					
Devotion	80	Low		Low	
		Texture/rock fragments	0.10		
15A:					
Dogue	80	Moderate		Low	
		Texture/rock fragments	0.50		
15B:					
Dogue	90	Moderate		Low	
		Texture/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
16B:					
Enon	35	Moderate		Low	
		Texture/rock fragments	0.50		
Helena	30	High		High	
		Texture/rock fragments	1.00	Wetness	1.00
16C:					
Enon	35	Moderate		Low	
		Texture/rock fragments	0.50		
Helena	25	High		High	
		Texture/rock fragments	1.00	Wetness	1.00
16D:					
Enon	50	Moderate		Low	
		Texture/rock fragments	0.50		
Helena	35	High		High	
		Texture/rock fragments	1.00	Wetness	1.00
17B:					
Enon	50	Moderate		Low	
		Texture/rock fragments	0.50		
Helena	40	High		High	
		Texture/rock fragments	1.00	Wetness	1.00
17C:					
Enon	40	Moderate		Low	
		Texture/rock fragments	0.50		
Helena	25	High		High	
		Texture/rock fragments	1.00	Wetness	1.00
18D:					
Enon	45	Moderate		Low	
		Texture/rock fragments	0.50		
Poindexter	35	Moderate		Low	
		Texture/rock fragments	0.50		
19D:					
Fairview	60	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
19D:					
Devotion	25	Low		Low	
		Texture/rock fragments	0.10		
19E:					
Fairview	50	High		Low	
		Texture/slope/ surface depth/ rock fragments	1.00		
Devotion	40	Low		Low	
		Texture/rock fragments	0.10		
20B:					
Halifax	80	Moderate		Low	
		Texture/rock fragments	0.50		
20C:					
Halifax	80	High		Low	
		Texture/rock fragments	1.00		
21B:					
Helena	80	High		High	
		Texture/rock fragments	1.00	Wetness	1.00
21C:					
Helena	70	High		High	
		Texture/rock fragments	1.00	Wetness	1.00
22B:					
Jackland	55	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
Mirerock	20	Low		Low	
		Texture/surface depth/rock fragments	0.10		
23B:					
Mattaponi	65	Moderate		Low	
		Texture/rock fragments	0.50		
Appling	25	Moderate		Low	
		Texture/rock fragments	0.50		
24B:					
Mayodan	45	Moderate		Low	
		Texture/rock fragments	0.50		
Exway	40	Low		Low	

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Potential for damage to soil by fire: Value	Potential for seedling mortality: Rating class and limiting features	Potential for seedling mortality: Value
24C:					
Mayodan	41	Moderate		Low	
		Texture/rock fragments	0.50		
Exway	40	Low		Low	
25B:					
Mecklenburg	75	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
25C:					
Mecklenburg	65	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
26B:					
Nathalie	90	Moderate		Low	
		Texture/rock fragments	0.50		
27C:					
Nathalie	55	Moderate		Low	
		Texture/rock fragments	0.50		
Halifax	25	High		Low	
		Texture/rock fragments	1.00		
28B:					
Oak Level	45	Moderate		Low	
		Texture/rock fragments	0.50		
Diana Mills	20	Moderate		Low	
		Texture/rock fragments	0.50		
29C:					
Oak Level	40	Moderate		Low	
		Texture/rock fragments	0.50		
Siloam	25	Moderate		Low	
		Texture/rock fragments	0.50		
29D:					
Oak Level	45	Moderate		Low	
		Texture/rock fragments	0.50		
Siloam	35	Moderate		Low	
		Texture/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
30D:					
Pacolet	60	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
Wateree	25	Moderate		Low	
		Texture/rock fragments	0.50		
30E:					
Pacolet	70	High		Low	
		Texture/slope/ surface depth/ rock fragments	1.00		
Wateree	20	Moderate		Low	
		Texture/slope/ rock fragments	0.50		
31B:					
Pinoka	45	Moderate		Low	
		Texture/rock fragments	0.50		
Carbonton	30	Moderate		High	
		Texture/surface depth/rock fragments	0.50	Wetness	1.00
31C:					
Pinoka	40	Moderate		Low	
		Texture/rock fragments	0.50		
Carbonton	30	Moderate		High	
		Texture/surface depth/rock fragments	0.50	Wetness	1.00
31D:					
Pinoka	30	Moderate		Low	
		Texture/rock fragments	0.50		
Carbonton	20	Moderate		High	
		Texture/surface depth/rock fragments	0.50	Wetness	1.00
32B:					
Poindexter	60	Moderate		Low	
		Texture/rock fragments	0.50		
Wedowee	25	Moderate		Low	
		Texture/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
32C:					
Poindexter----------	50	Moderate		Low	
		Texture/rock fragments	0.50		
Wedowee------------	30	Moderate		Low	
		Texture/rock fragments	0.50		
32D:					
Poindexter----------	50	Moderate		Low	
		Texture/rock fragments	0.50		
Wedowee------------	30	Moderate		Low	
		Texture/rock fragments	0.50		
32E:					
Poindexter----------	60	Moderate		Low	
		Texture/slope/ rock fragments	0.50		
Wedowee------------	30	Moderate		Low	
		Texture/rock fragments	0.50		
33B:					
Rasalo--------------	35	Moderate		Low	
		Texture/rock fragments	0.50		
Halifax-------------	30	High		Low	
		Texture/rock fragments	1.00		
33C:					
Rasalo--------------	35	Moderate		Low	
		Texture/rock fragments	0.50		
Halifax-------------	25	High		Low	
		Texture/rock fragments	1.00		
34E:					
Rasalo--------------	35	Moderate		Low	
		Texture/slope/ rock fragments	0.50		
Spriggs-------------	25	Moderate		Low	
		Texture/rock fragments	0.50		
35A:					
Riverview-----------	45	Moderate		Low	
		Texture/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
35A:					
Tuckahoe------------	40	Low		Low	
		Texture/rock fragments	0.10		
36A:					
Sindion-------------	85	Low		Low	
		Texture/rock fragments	0.10		
37A:					
Speedwell-----------	90	Low		Low	
		Texture/rock fragments	0.10		
38B:					
Spriggs-------------	60	Moderate		Low	
		Texture/rock fragments	0.50		
Toast---------------	25	Moderate		Low	
		Texture/rock fragments	0.50		
38C:					
Spriggs-------------	50	Moderate		Low	
		Texture/rock fragments	0.50		
Toast---------------	30	Moderate		Low	
		Texture/rock fragments	0.50		
38D:					
Spriggs-------------	50	Moderate		Low	
		Texture/rock fragments	0.50		
Toast---------------	30	Moderate		Low	
		Texture/rock fragments	0.50		
38E:					
Spriggs-------------	60	Moderate		Low	
		Texture/rock fragments	0.50		
Toast---------------	30	Moderate		Low	
		Texture/rock fragments	0.50		
39B:					
State---------------	85	Moderate		Low	
		Texture/rock fragments	0.50		
40A:					
Toccoa--------------	90	Low		Low	
		Texture/rock fragments	0.10		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
41B:					
Trenholm------------	80	Moderate		Low	
		Texture/rock fragments	0.50		
42C:					
Wateree-------------	85	Moderate		Low	
		Texture/rock fragments	0.50		
42D:					
Wateree-------------	80	Moderate		Low	
		Texture/rock fragments	0.50		
43A:					
Wehadkee------------	90	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
44B:					
Wintergreen---------	90	Moderate		Low	
		Texture/rock fragments	0.50		
45B:					
Worsham-------------	75	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
W:					
Water---------------	100	Not rated		Not rated	

Table 10.—Recreational Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B:							
Appling	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.88
						Too sandy	0.01
2C:							
Appling	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Helena	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Slow water movement	0.94	Slope	1.00
		Slow water movement	0.94	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Slope	0.37	Slope	0.37	Slow water movement	0.94
3B:							
Banister	80	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98	Slow water movement	0.15	Slope	0.50
		Slow water movement	0.15			Slow water movement	0.15
4B:							
Bentley	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.88	Too sandy	0.88	Slope	0.88
						Too sandy	0.88
Nathalie	25	Not limited		Not limited		Somewhat limited	
						Slope	0.88
5B:							
Brickhaven	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
						Slope	0.50
Creedmoor	35	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Too sandy	0.01	Too sandy	0.01	Slope	0.50
5C:							
Brickhaven	45	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Slope	0.37	Slope	0.37	Slow water movement	0.94

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
5C:							
Creedmoor-----------	30	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Slow water movement	1.00
		Slope	0.37	Slope	0.37	Depth to saturated zone	0.99
6B:							
Cecil---------------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
7C:							
Cecil---------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
8A:							
Chewacla------------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
Monacan-------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
9B:							
Clifford------------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.50
10C:							
Clifford------------	90	Somewhat limited		Somewhat limited		Very limited	
		Large stones content	0.53	Large stones content	0.53	Slope	1.00
		Slope	0.37	Slope	0.37	Large stones content	0.53
11C:							
Clifford------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
12A:							
Codorus-------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
13B:							
Delila--------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
14C:							
Devotion------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
						Depth to bedrock	0.46

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
14D:							
Devotion------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.46
15A:							
Dogue---------------	80	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Slow water movement	0.15	Slow water movement	0.15
		Slow water movement	0.15	Depth to saturated zone	0.03	Depth to saturated zone	0.07
		Depth to saturated zone	0.07				
15B:							
Dogue---------------	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Slow water movement	0.15	Slope	0.88
		Slow water movement	0.15	Depth to saturated zone	0.03	Slow water movement	0.15
		Depth to saturated zone	0.07			Depth to saturated zone	0.07
16B:							
Enon----------------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
						Slope	0.88
Helena--------------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Slow water movement	0.94	Depth to saturated zone	0.99
		Slow water movement	0.94	Depth to saturated zone	0.78	Slow water movement	0.94
						Slope	0.88
16C:							
Enon----------------	35	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Slope	0.37	Slope	0.37	Slow water movement	0.94
Helena--------------	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Slow water movement	0.94	Slope	1.00
		Slow water movement	0.94	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Slope	0.37	Slope	0.37	Slow water movement	0.94
16D:							
Enon----------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
Helena--------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.99	Slow water movement	0.94	Depth to saturated zone	0.99
		Slow water movement	0.94	Depth to saturated zone	0.78	Slow water movement	0.94

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
17B:							
Enon	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
		Large stones content	0.53	Large stones content	0.53	Slope	0.88
						Large stones content	0.53
Helena	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Slow water movement	0.94	Depth to saturated zone	0.99
		Slow water movement	0.94	Depth to saturated zone	0.78	Slow water movement	0.94
		Large stones content	0.53	Large stones content	0.53	Slope	0.88
17C:							
Enon	40	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Large stones content	0.53	Large stones content	0.53	Slow water movement	0.94
		Slope	0.37	Slope	0.37	Large stones content	0.53
Helena	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Slow water movement	0.94	Slope	1.00
		Slow water movement	0.94	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Large stones content	0.53	Large stones content	0.53	Slow water movement	0.94
18D:							
Enon	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
		Large stones content	0.53	Large stones content	0.53	Large stones content	0.53
Poindexter	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.53	Large stones content	0.53	Large stones content	0.53
						Gravel content	0.18
19D:							
Fairview	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.22
Devotion	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.46
19E:							
Fairview	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.22

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
19E:							
Devotion	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.46
20B:							
Halifax	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
		Depth to saturated zone	0.24	Depth to saturated zone	0.12	Slope	0.88
						Depth to saturated zone	0.24
20C:							
Halifax	80	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Depth to saturated zone	0.24	Slope	0.16	Slow water movement	0.94
		Slope	0.16	Depth to saturated zone	0.12	Depth to saturated zone	0.24
21B:							
Helena	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Slow water movement	0.94	Depth to saturated zone	0.99
		Slow water movement	0.94	Depth to saturated zone	0.78	Slow water movement	0.94
						Slope	0.88
21C:							
Helena	70	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Slow water movement	0.94	Slope	1.00
		Slow water movement	0.94	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Slope	0.37	Slope	0.37	Slow water movement	0.94
22B:							
Jackland	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Slope	0.50
Mirerock	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.26	Slow water movement	0.26	Slope	0.50
						Depth to bedrock	0.46
						Slow water movement	0.26
23B:							
Mattaponi	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.15	Slow water movement	0.15	Slope	0.88
						Slow water movement	0.15
Appling	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.88
						Too sandy	0.01

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
24B:							
Mayodan	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.88
						Gravel content	0.22
						Too sandy	0.01
Exway	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.15	Slow water movement	0.15	Depth to bedrock	0.90
						Slope	0.88
						Slow water movement	0.15
24C:							
Mayodan	41	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Gravel content	0.22
						Too sandy	0.01
Exway	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
		Slow water movement	0.15	Slow water movement	0.15	Depth to bedrock	0.90
						Slow water movement	0.15
25B:							
Mecklenburg	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
						Slope	0.88
						Gravel content	0.22
25C:							
Mecklenburg	65	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Slope	0.37	Slope	0.37	Slow water movement	0.94
						Gravel content	0.22
26B:							
Nathalie	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
27C:							
Nathalie	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Halifax	25	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Depth to saturated zone	0.24	Slope	0.16	Slow water movement	0.94
		Slope	0.16	Depth to saturated zone	0.12	Depth to saturated zone	0.24
28B:							
Oak Level	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.15	Slow water movement	0.15	Slope	0.88
						Slow water movement	0.15

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
28B:							
Diana Mills	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
						Slope	0.88
						Gravel content	0.04
29C:							
Oak Level	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
		Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
Siloam	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to bedrock	1.00
		Slow water movement	0.15	Slow water movement	0.15	Gravel content	0.22
29D:							
Oak Level	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
Siloam	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.15	Slow water movement	0.15	Gravel content	0.22
30D:							
Pacolet	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Wateree	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.22
						Depth to bedrock	0.01
30E:							
Pacolet	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Wateree	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.22
						Depth to bedrock	0.01
31B:							
Pinoka	45	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.99	Slow water movement	0.99	Gravel content	1.00
		Gravel content	0.08	Gravel content	0.08	Slow water movement	0.99
						Slope	0.88

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
31B:							
Carbonton	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
						Slope	0.88
31C:							
Pinoka	40	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.99	Slow water movement	0.99	Gravel content	1.00
		Slope	0.37	Slope	0.37	Slope	1.00
		Gravel content	0.08	Gravel content	0.08	Slow water movement	0.99
Carbonton	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Slope	0.37	Slope	0.37	Slow water movement	0.94
31D:							
Pinoka	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Slow water movement	0.99	Slow water movement	0.99	Slope	1.00
		Gravel content	0.08	Gravel content	0.08	Slow water movement	0.99
Carbonton	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Depth to saturated zone	1.00
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
32B:							
Poindexter	60	Not limited		Not limited		Somewhat limited	
						Slope	0.88
						Gravel content	0.18
						Depth to bedrock	0.01
Wedowee	25	Not limited		Not limited		Somewhat limited	
						Slope	0.88
						Gravel content	0.22
32C:							
Poindexter	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
						Gravel content	0.18
						Depth to bedrock	0.01
Wedowee	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
						Gravel content	0.22
32D:							
Poindexter	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.18
						Depth to bedrock	0.01

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
32D:							
Wedowee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.22
32E:							
Poindexter	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.18
						Depth to bedrock	0.01
Wedowee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.22
33B:							
Rasalo	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
						Slope	0.50
Halifax	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
		Depth to saturated zone	0.24	Depth to saturated zone	0.12	Slope	0.88
						Depth to saturated zone	0.24
33C:							
Rasalo	35	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.60	Slow water movement	0.60	Slope	1.00
		Slope	0.37	Slope	0.37	Slow water movement	0.60
Halifax	25	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Depth to saturated zone	0.24	Slope	0.16	Slow water movement	0.94
		Slope	0.16	Depth to saturation	0.12	Depth to saturated zone	0.24
34E:							
Rasalo	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
		Large stones content	0.53	Large stones content	0.53	Large stones content	0.53
Spriggs	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.53	Large stones content	0.53	Large stones content	0.53
						Depth to bedrock	0.01
35A:							
Riverview	45	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
Tuckahoe	40	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
36A:							
Sindion	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.03	Flooding	0.60
		Depth to saturated zone	0.07			Depth to saturated zone	0.07
37A:							
Speedwell	90	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
38B:							
Spriggs	60	Not limited		Not limited		Somewhat limited	
						Slope	0.50
						Depth to bedrock	0.01
Toast	25	Not limited		Not limited		Somewhat limited	
						Slope	0.88
38C:							
Spriggs	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.01
Toast	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
38D:							
Spriggs	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.01
Toast	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
38E:							
Spriggs	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.01
Toast	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
39B:							
State	85	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.50
40A:							
Toccoa	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
41B:							
Trenholm	80	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.88
						Depth to saturated zone	0.39

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
42C:							
Wateree	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	0.22
						Depth to bedrock	0.01
42D:							
Wateree	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.22
						Depth to bedrock	0.01
43A:							
Wehadkee	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
44B:							
Wintergreen	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
45B:							
Worsham	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
W:							
Water	100	Not rated		Not rated		Not rated	

Table 10.—Recreational Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B:							
Appling-------------	90	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		
2C:							
Appling-------------	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.37
Helena--------------	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
						Slope	0.37
3B:							
Banister------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
4B:							
Bentley-------------	65	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.88	Too sandy	0.88		
Nathalie------------	25	Not limited		Not limited		Not limited	
5B:							
Brickhaven----------	50	Not limited		Not limited		Not limited	
Creedmoor-----------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
		Too sandy	0.01	Too sandy	0.01		
5C:							
Brickhaven----------	45	Not limited		Not limited		Somewhat limited	
						Slope	0.37
Creedmoor-----------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
		Too sandy	0.01	Too sandy	0.01	Slope	0.37
6B:							
Cecil---------------	90	Not limited		Not limited		Not limited	
7C:							
Cecil---------------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.16
8A:							
Chewacla------------	45	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.99

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
8A:							
Monacan	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
9B:							
Clifford	90	Not limited		Not limited		Not limited	
10C:							
Clifford	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.53	Large stones content	0.53	Slope	0.37
11C:							
Clifford	85	Not limited		Not limited		Somewhat limited	
						Slope	0.16
12A:							
Codorus	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
13B:							
Delila	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
14C:							
Devotion	85	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.46
						Slope	0.16
						Droughty	0.12
14D:							
Devotion	80	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.46
						Droughty	0.12
15A:							
Dogue	80	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.03
15B:							
Dogue	90	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.03
16B:							
Enon	35	Not limited		Not limited		Not limited	
Helena	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
16C:							
Enon	35	Not limited		Not limited		Somewhat limited	
						Slope	0.37
Helena	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
						Slope	0.37
16D:							
Enon	50	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Helena	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Depth to saturated zone	0.50	Slope	1.00
		Depth to saturated zone	0.50			Depth to saturated zone	0.78
17B:							
Enon	50	Somewhat limited		Somewhat limited		Not limited	
		Large stones content	0.53	Large stones content	0.53		
Helena	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.53	Large stones content	0.53	Depth to saturated zone	0.78
		Depth to saturated zone	0.50	Depth to saturated zone	0.50		
17C:							
Enon	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.53	Large stones content	0.53	Slope	0.37
Helena	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.53	Large stones content	0.53	Depth to saturated zone	0.78
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Slope	0.37
18D:							
Enon	45	Somewhat limited		Somewhat limited		Very limited	
		Large stones content	0.53	Large stones content	0.53	Slope	1.00
		Slope	0.50				
Poindexter	35	Somewhat limited		Somewhat limited		Very limited	
		Large stones content	0.53	Large stones content	0.53	Slope	1.00
						Depth to bedrock	0.01
		Slope	0.50				
19D:							
Fairview	60	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Devotion	25	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.46
						Droughty	0.12

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
19E:							
Fairview	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
Devotion	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.46
						Droughty	0.12
20B:							
Halifax	80	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.12
20C:							
Halifax	80	Not limited		Not limited		Somewhat limited	
						Slope	0.16
						Depth to saturated zone	0.12
21B:							
Helena	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
21C:							
Helena	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
						Slope	0.37
22B:							
Jackland	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Mirerock	20	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.46
23B:							
Mattaponi	65	Not limited		Not limited		Not limited	
Appling	25	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		
24B:							
Mayodan	45	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		
Exway	40	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.90
24C:							
Mayodan	41	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.37
Exway	40	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.90
						Slope	0.37

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
25B:							
Mecklenburg	75	Not limited		Not limited		Not limited	
25C:							
Mecklenburg	65	Not limited		Not limited		Somewhat limited	
						Slope	0.37
26B:							
Nathalie	90	Not limited		Not limited		Not limited	
27C:							
Nathalie	55	Not limited		Not limited		Somewhat limited	
						Slope	0.63
Halifax	25	Not limited		Not limited		Somewhat limited	
						Slope	0.16
						Depth to saturated zone	0.12
28B:							
Oak Level	45	Not limited		Not limited		Not limited	
Diana Mills	20	Not limited		Not limited		Somewhat limited	
						Large stones content	0.68
29C:							
Oak Level	40	Not limited		Not limited		Somewhat limited	
						Slope	0.16
Siloam	25	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	0.91
						Slope	0.63
29D:							
Oak Level	45	Somewhat limited		Not limited		Very limited	
		Slope	0.32			Slope	1.00
Siloam	35	Somewhat limited		Not limited		Very limited	
		Slope	0.68			Depth to bedrock	1.00
						Slope	1.00
						Droughty	0.91
30D:							
Pacolet	60	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Wateree	25	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.11
						Depth to bedrock	0.01
30E:							
Pacolet	70	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
Wateree	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
						Droughty	0.11
						Depth to bedrock	0.01

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
31B:							
Pinoka	45	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.46
						Gravel content	0.08
						Droughty	0.02
Carbonton	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	0.65
31C:							
Pinoka	40	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.46
						Slope	0.37
						Gravel content	0.08
Carbonton	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	0.65
						Slope	0.37
31D:							
Pinoka	30	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.46
						Gravel content	0.08
Carbonton	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.50			Depth to saturated zone	1.00
						Depth to bedrock	0.65
32B:							
Poindexter	60	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.01
Wedowee	25	Not limited		Not limited		Not limited	
32C:							
Poindexter	50	Not limited		Not limited		Somewhat limited	
						Slope	0.37
						Depth to bedrock	0.01
Wedowee	30	Not limited		Not limited		Somewhat limited	
						Slope	0.37
32D:							
Poindexter	50	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.01
Wedowee	30	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
32E:							
Poindexter	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.01
Wedowee	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
33B:							
Rasalo	35	Not limited		Not limited		Not limited	
Halifax	30	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.12
33C:							
Rasalo	35	Not limited		Not limited		Somewhat limited	
						Slope	0.37
Halifax	25	Not limited		Not limited		Somewhat limited	
						Slope	0.16
						Depth to saturated zone	0.12
34E:							
Rasalo	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Large stones content	0.53	Slope	1.00
		Large stones content	0.53	Slope	0.22		
Spriggs	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Large stones content	0.53	Slope	1.00
		Large stones content	0.53	Slope	0.22	Depth to bedrock	0.01
35A:							
Riverview	45	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
Tuckahoe	40	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
36A:							
Sindion	85	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
						Depth to saturated zone	0.03
37A:							
Speedwell	90	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
38B:							
Spriggs	60	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.01
Toast	25	Not limited		Not limited		Not limited	

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
38C:							
Spriggs	50	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to bedrock	0.01
Toast	30	Not limited		Not limited		Somewhat limited	
						Slope	0.37
38D:							
Spriggs	50	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.01
Toast	30	Somewhat limited		Not limited		Very limited	
		Slope	0.18			Slope	1.00
38E:							
Spriggs	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
						Depth to bedrock	0.01
Toast	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
39B:							
State	85	Not limited		Not limited		Not limited	
40A:							
Toccoa	90	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
41B:							
Trenholm	80	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19
42C:							
Wateree	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Droughty	0.11
						Depth to bedrock	0.01
42D:							
Wateree	80	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.11
						Depth to bedrock	0.01
43A:							
Wehadkee	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
44B:							
Wintergreen	90	Not limited		Not limited		Not limited	

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
45B:							
Worsham	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
W:							
Water	100	Not rated		Not rated		Not rated	

Table 11.—Building Site Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B:							
Appling-------------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
2C:							
Appling-------------	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Helena--------------	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to saturated zone	0.99
3B:							
Banister------------	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
4B:							
Bentley-------------	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.95	Shrink-swell	0.50
				Shrink-swell	0.50	Slope	0.12
Nathalie------------	25	Not limited		Not limited		Somewhat limited	
						Slope	0.12
5B:							
Brickhaven----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to saturated zone	0.47		
Creedmoor-----------	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Depth to saturated zone	0.99
5C:							
Brickhaven----------	45	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.37	Depth to saturated zone	0.47	Shrink-swell	0.50
				Slope	0.37		
Creedmoor-----------	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to saturated zone	0.99

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
6B:							
Cecil	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
7C:							
Cecil	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
8A:							
Chewacla	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Monacan	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
9B:							
Clifford	90	Not limited		Not limited		Not limited	
10C:							
Clifford	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
11C:							
Clifford	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
12A:							
Codorus	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
13B:							
Delila	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
14C:							
Devotion	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Depth to soft bedrock	0.46	Slope	1.00
				Depth to hard bedrock	0.26		
				Slope	0.16		
14D:							
Devotion	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.46		
				Depth to hard bedrock	0.26		

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
15A:							
Dogue	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.07	Shrink-swell	0.50	Depth to saturated zone	0.07
15B:							
Dogue	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.07	Shrink-swell	0.50	Slope	0.12
16B:							
Enon	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
						Slope	0.12
Helena	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Depth to saturated zone	0.99
						Slope	0.12
16C:							
Enon	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.37	Slope	0.37	Slope	1.00
Helena	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to saturated zone	0.99
16D:							
Enon	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Helena	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Depth to saturated zone	0.99
17B:							
Enon	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
						Slope	0.12
Helena	40	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Depth to saturated zone	0.99
						Slope	0.12

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
17C:							
Enon	40	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.37	Slope	0.37	Slope	1.00
Helena	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to saturated zone	0.99
18D:							
Enon	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Poindexter	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.01		
19D:							
Fairview	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Devotion	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.46		
				Depth to hard bedrock	0.26		
19E:							
Fairview	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Devotion	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.46		
				Depth to hard bedrock	0.26		
20B:							
Halifax	80	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.24	Shrink-swell	1.00	Depth to saturated zone	0.24
						Slope	0.12
20C:							
Halifax	80	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.24	Shrink-swell	1.00	Slope	1.00
		Slope	0.16	Slope	0.16	Depth to saturated zone	0.24

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
21B:							
Helena	80	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Depth to saturated zone	0.99
						Slope	0.12
21C:							
Helena	70	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to saturated zone	0.99
22B:							
Jackland	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00			Shrink-swell	1.00
Mirerock	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.46		
23B:							
Mattaponi	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.95	Shrink-swell	0.50
				Shrink-swell	0.50	Slope	0.12
Appling	25	Not limited		Not limited		Somewhat limited	
						Slope	0.12
24B:							
Mayodan	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.12
Exway	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to soft bedrock	0.90	Shrink-swell	0.50
				Shrink-swell	0.50	Slope	0.12
24C:							
Mayodan	41	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.37	Slope	0.37	Shrink-swell	0.50
Exway	40	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Depth to soft bedrock	0.90	Slope	1.00
		Slope	0.37	Shrink-swell	0.50	Shrink-swell	0.50
				Slope	0.37		
25B:							
Mecklenburg	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.12

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
25C:							
Mecklenburg	65	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.37	Slope	0.37	Shrink-swell	0.50
26B:							
Nathalie	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
27C:							
Nathalie	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Halifax	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.24	Shrink-swell	1.00	Slope	1.00
		Slope	0.16	Slope	0.16	Depth to saturated zone	0.24
28B:							
Oak Level	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.12
Diana Mills	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
		Large stones content	0.10	Large stones content	0.10	Slope	0.12
						Large stones content	0.10
29C:							
Oak Level	40	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.16	Slope	0.16	Shrink-swell	0.50
Siloam	25	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Depth to soft bedrock	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	0.63	Depth to hard bedrock	0.79
29D:							
Oak Level	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Siloam	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	0.50	Depth to soft bedrock	1.00	Depth to hard bedrock	0.79
30D:							
Pacolet	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30D:							
Wateree-------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.01		
30E:							
Pacolet-------------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Wateree-------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.01		
31B:							
Pinoka--------------	45	Not limited		Somewhat limited		Somewhat limited	
				Depth to soft bedrock	0.46	Slope	0.12
Carbonton-----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Depth to soft bedrock	0.64	Shrink-swell	0.50
						Slope	0.12
				Shrink-swell	0.50		
31C:							
Pinoka--------------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Depth to soft bedrock	0.46	Slope	1.00
				Slope	0.37		
Carbonton-----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Depth to soft bedrock	0.64	Slope	1.00
		Slope	0.37			Shrink-swell	0.50
				Shrink-swell	0.50		
31D:							
Pinoka--------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.46		
Carbonton-----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Depth to soft bedrock	0.64	Shrink-swell	0.50
32B:							
Poindexter----------	60	Not limited		Somewhat limited		Somewhat limited	
				Depth to soft bedrock	0.01	Slope	0.12
Wedowee-------------	25	Not limited		Not limited		Somewhat limited	
						Slope	0.12

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
32C:							
Poindexter----------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
				Depth to soft bedrock	0.01		
Wedowee-------------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
32D:							
Poindexter----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.01		
Wedowee-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
32E:							
Poindexter----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.01		
Wedowee-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
33B:							
Rasalo--------------	35	Very limited		Not limited		Very limited	
		Shrink-swell	1.00			Shrink-swell	1.00
Halifax-------------	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.24	Shrink-swell	1.00	Depth to saturated zone	0.24
						Slope	0.12
33C:							
Rasalo--------------	35	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Slope	0.37	Shrink-swell	1.00
		Slope	0.37			Slope	1.00
Halifax-------------	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.24	Shrink-swell	1.00	Slope	1.00
		Slope	0.16	Slope	0.16	Depth to saturated zone	0.24
34E:							
Rasalo--------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00			Shrink-swell	1.00
Spriggs-------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.01		

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35A:							
Riverview-----------	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.61		
Tuckahoe------------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
36A:							
Sindion-------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.07	Depth to saturated zone	1.00	Depth to saturated zone	0.07
37A:							
Speedwell-----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
38B:							
Spriggs-------------	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.01		
Toast---------------	25	Not limited		Not limited		Somewhat limited	
						Slope	0.12
38C:							
Spriggs-------------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.01		
Toast---------------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
38D:							
Spriggs-------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.01		
Toast---------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
38E:							
Spriggs-------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.01		
Toast---------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
39B:							
State	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.15		
40A:							
Toccoa	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.73		
41B:							
Trenholm	80	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
						Slope	0.12
42C:							
Wateree	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
				Depth to soft bedrock	0.01		
42D:							
Wateree	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.01		
43A:							
Wehadkee	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
44B:							
Wintergreen	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.12
45B:							
Worsham	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
W:							
Water	100	Not rated		Not rated		Not rated	

Table 11.—Building Site Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B:							
Appling-------------	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.08	Too clayey	0.28		
				Cutbanks cave	0.10		
2C:							
Appling-------------	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
		Low strength	0.08	Too clayey	0.28		
				Cutbanks cave	0.10		
Helena--------------	25	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Slope	0.37	Slope	0.37
		Depth to saturated zone	0.78	Too clayey	0.12		
3B:							
Banister------------	80	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Shrink-swell	0.78	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
4B:							
Bentley-------------	65	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.95		
		Shrink-swell	0.50	Too clayey	0.12		
				Cutbanks cave	0.10		
Nathalie------------	25	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.28		
				Cutbanks cave	0.10		
5B:							
Brickhaven----------	50	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.47		
		Shrink-swell	0.50	Too clayey	0.28		
				Cutbanks cave	0.10		
Creedmoor-----------	35	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Too clayey	0.50		
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
5C:							
Brickhaven----------	45	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	0.47	Slope	0.37
		Shrink-swell	0.50	Slope	0.37		
		Slope	0.37	Too clayey	0.28		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
5C:							
Creedmoor	30	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Too clayey	0.50	Slope	0.37
		Depth to saturated zone	0.78	Slope	0.37		
6B:							
Cecil	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.12		
				Cutbanks cave	0.10		
7C:							
Cecil	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16	Slope	0.16
		Low strength	0.10	Too clayey	0.12		
				Cutbanks cave	0.10		
8A:							
Chewacla	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Low strength	1.00	Flooding	0.80	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	0.10		
Monacan	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
9B:							
Clifford	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.72		
				Cutbanks cave	0.10		
10C:							
Clifford	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Too clayey	0.72	Slope	0.37
		Low strength	0.10	Slope	0.37		
				Cutbanks cave	0.10		
11C:							
Clifford	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Too clayey	0.72	Slope	0.16
		Low strength	0.10	Slope	0.16		
				Cutbanks cave	0.10		
12A:							
Codorus	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
				Cutbanks cave	0.10		
13B:							
Delila	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50	Too clayey	0.03		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
14C:							
Devotion	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Depth to soft bedrock	0.46	Depth to bedrock	0.46
				Depth to hard bedrock	0.26	Slope	0.16
				Slope	0.16	Droughty	0.12
14D:							
Devotion	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.46	Depth to bedrock	0.46
				Depth to hard bedrock	0.26	Droughty	0.12
15A:							
Dogue	80	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Shrink-swell	0.50	Too clayey	0.12		
		Flooding	0.40	Cutbanks cave	0.10		
15B:							
Dogue	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Shrink-swell	0.50	Too clayey	0.12		
		Flooding	0.40	Cutbanks cave	0.10		
16B:							
Enon	35	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.88		
		Shrink-swell	1.00	Cutbanks cave	0.10		
Helena	30	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Too clayey	0.12		
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
16C:							
Enon	35	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.88	Slope	0.37
		Shrink-swell	1.00	Slope	0.37		
		Slope	0.37	Cutbanks cave	0.10		
Helena	25	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Slope	0.37	Slope	0.37
		Depth to saturated zone	0.78	Too clayey	0.12		
16D:							
Enon	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.88		
		Shrink-swell	1.00	Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
16D:							
Helena	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Too clayey	0.12		
17B:							
Enon	50	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.88		
		Shrink-swell	1.00	Cutbanks cave	0.10		
Helena	40	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Too clayey	0.12		
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
17C:							
Enon	40	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.88	Slope	0.37
		Shrink-swell	1.00	Slope	0.37		
		Slope	0.37	Cutbanks cave	0.10		
Helena	25	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Slope	0.37	Slope	0.37
		Depth to saturated zone	0.78	Too clayey	0.12		
18D:							
Enon	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.88		
		Shrink-swell	1.00	Cutbanks cave	0.10		
Poindexter	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
19D:							
Fairview	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Too clayey	0.12		
				Cutbanks cave	0.10		
Devotion	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.46	Depth to bedrock	0.46
				Depth to hard bedrock	0.26	Droughty	0.12
19E:							
Fairview	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Too clayey	0.12		
				Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
19E:							
Devotion	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.46	Depth to bedrock	0.46
				Depth to hard bedrock	0.26	Droughty	0.12
20B:							
Halifax	80	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.12
		Low strength	1.00	Too clayey	0.28		
		Depth to saturated zone	0.12	Cutbanks cave	0.10		
20C:							
Halifax	80	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Slope	0.16
		Low strength	1.00	Too clayey	0.28	Depth to saturated zone	0.12
		Slope	0.16	Slope	0.16		
21B:							
Helena	80	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Too clayey	0.12		
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
21C:							
Helena	70	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Slope	0.37	Slope	0.37
		Depth to saturated zone	0.78	Too clayey	0.12		
22B:							
Jackland	55	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too clayey	0.50		
		Low strength	1.00	Cutbanks cave	0.10		
Mirerock	20	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.50	Depth to bedrock	0.46
		Shrink-swell	0.50	Depth to soft bedrock	0.46		
				Cutbanks cave	0.10		
23B:							
Mattaponi	65	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.95		
		Shrink-swell	0.50	Too clayey	0.12		
				Cutbanks cave	0.10		
Appling	25	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.08	Too clayey	0.28		
				Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
24B:							
Mayodan	45	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.28		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Exway	40	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Depth to soft bedrock	0.90	Depth to bedrock	0.90
		Shrink-swell	0.50	Cutbanks cave	0.10		
24C:							
Mayodan	41	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.37	Slope	0.37
		Shrink-swell	0.50	Too clayey	0.28		
		Slope	0.37	Cutbanks cave	0.10		
Exway	40	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Depth to soft bedrock	0.90	Depth to bedrock	0.90
		Shrink-swell	0.50			Slope	0.37
		Slope	0.37	Slope	0.37		
				Cutbanks cave	0.10		
25B:							
Mecklenburg	75	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.50		
		Shrink-swell	0.50	Cutbanks cave	0.10		
25C:							
Mecklenburg	65	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.50	Slope	0.37
		Shrink-swell	0.50	Slope	0.37		
		Slope	0.37	Cutbanks cave	0.10		
26B:							
Nathalie	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.28		
				Cutbanks cave	0.10		
27C:							
Nathalie	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Low strength	0.10	Too clayey	0.28		
				Cutbanks cave	0.10		
Halifax	25	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Slope	0.16
		Low strength	1.00			Depth to saturated zone	0.12
		Slope	0.16	Too clayey	0.28		
				Slope	0.16		
28B:							
Oak Level	45	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Diana Mills	20	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.50	Large stones content	0.68
		Shrink-swell	0.50	Large stones content	0.10		
		Large stones content	0.10	Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
29C:							
Oak Level-----------	40	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.16	Slope	0.16
		Shrink-swell	0.50	Too clayey	0.12		
		Slope	0.16	Cutbanks cave	0.10		
Siloam--------------	25	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to hard bedrock	0.79	Depth to soft bedrock	1.00	Droughty	0.91
		Slope	0.63	Slope	0.63	Slope	0.63
29D:							
Oak Level-----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Siloam--------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.79	Slope	1.00	Droughty	0.91
30D:							
Pacolet-------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10		
Wateree-------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Droughty	0.11
				Depth to soft bedrock	0.01	Depth to bedrock	0.01
30E:							
Pacolet-------------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10		
Wateree-------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Droughty	0.11
				Depth to soft bedrock	0.01	Depth to bedrock	0.01
31B:							
Pinoka--------------	45	Not limited		Somewhat limited		Somewhat limited	
				Depth to soft bedrock	0.46	Depth to bedrock	0.46
						Gravel content	0.08
				Cutbanks cave	0.10	Droughty	0.02
Carbonton-----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Depth to soft bedrock	0.64	Depth to bedrock	0.65
		Shrink-swell	0.50				
				Too clayey	0.28		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
31C:							
Pinoka	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Depth to soft bedrock	0.46	Depth to bedrock	0.46
				Slope	0.37	Slope	0.37
				Cutbanks cave	0.10	Gravel content	0.08
Carbonton	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Depth to soft bedrock	0.64	Depth to bedrock	0.65
		Shrink-swell	0.50	Slope	0.37	Slope	0.37
31D:							
Pinoka	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.46	Depth to bedrock	0.46
				Cutbanks cave	0.10	Gravel content	0.08
Carbonton	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Depth to soft bedrock	0.64	Depth to bedrock	0.65
32B:							
Poindexter	60	Not limited		Somewhat limited		Somewhat limited	
				Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Wedowee	25	Not limited		Somewhat limited		Not limited	
				Too clayey	0.12		
				Cutbanks cave	0.10		
32C:							
Poindexter	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
				Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Wedowee	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
				Too clayey	0.12		
				Cutbanks cave	0.10		
32D:							
Poindexter	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Wedowee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Too clayey	0.12		
				Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
32E:							
Poindexter----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Wedowee-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Too clayey	0.12		
				Cutbanks cave	0.10		
33B:							
Rasalo--------------	35	Very limited		Somewhat limited		Not limited	
		Shrink-swell	1.00	Too clayey	0.88		
		Low strength	1.00	Cutbanks cave	0.10		
Halifax-------------	30	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.12
		Low strength	1.00				
		Depth to saturated zone	0.12	Too clayey	0.28		
				Cutbanks cave	0.10		
33C:							
Rasalo--------------	35	Very limited		Somewhat limited		Somewhat limited	
		Shrink-swell	1.00	Too clayey	0.88	Slope	0.37
		Low strength	1.00	Slope	0.37		
		Slope	0.37	Cutbanks cave	0.10		
Halifax-------------	25	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Slope	0.16
		Low strength	1.00			Depth to saturated zone	0.12
		Slope	0.16	Too clayey	0.28		
				Slope	0.16		
34E:							
Rasalo--------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	0.88		
		Low strength	1.00	Cutbanks cave	0.10		
Spriggs-------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
35A:							
Riverview-----------	45	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.61	Flooding	0.60
				Flooding	0.60		
				Cutbanks cave	0.10		
Tuckahoe------------	40	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Low strength	1.00	Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
36A:							
Sindion	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Low strength	1.00	Flooding	0.60	Depth to saturated zone	0.03
		Depth to saturated zone	0.03	Cutbanks cave	0.10		
37A:							
Speedwell	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Low strength	0.78	Cutbanks cave	0.10		
38B:							
Spriggs	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Toast	25	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.08	Too clayey	0.12		
				Cutbanks cave	0.10		
38C:							
Spriggs	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Shrink-swell	0.50	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Toast	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
		Low strength	0.08	Too clayey	0.12		
				Cutbanks cave	0.10		
38D:							
Spriggs	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Toast	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.08	Too clayey	0.12		
				Cutbanks cave	0.10		
38E:							
Spriggs	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Toast	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.08	Too clayey	0.12		
				Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
39B:							
State	85	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.15		
		Flooding	0.40	Cutbanks cave	0.10		
40A:							
Toccoa	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Depth to saturated zone	0.73		
				Cutbanks cave	0.10		
41B:							
Trenholm	80	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Low strength	1.00	Too clayey	0.28		
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
42C:							
Wateree	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
				Cutbanks cave	0.10	Droughty	0.11
				Depth to soft bedrock	0.01	Depth to bedrock	0.01
42D:							
Wateree	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Droughty	0.11
				Depth to soft bedrock	0.01	Depth to bedrock	0.01
43A:							
Wehadkee	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
44B:							
Wintergreen	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Cutbanks cave	0.10		
45B:							
Worsham	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50	Too clayey	0.03		
W:							
Water	100	Not rated		Not rated		Not rated	

Table 12.—Sanitary Facilities, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
1B:					
Appling-------------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
2C:					
Appling-------------	55	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
		Slope	0.37		
Helena--------------	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
				Seepage	0.50
		Slope	0.37		
3B:					
Banister------------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.68
				Flooding	0.40
		Flooding	0.40		
4B:					
Bentley-------------	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
				Slope	0.68
		Slow water movement	0.50		
Nathalie------------	25	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.68
		Slow water movement	0.50		
5B:					
Brickhaven----------	50	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.50
				Slope	0.32
		Depth to saturated zone	0.94	Depth to soft bedrock	0.05
		Depth to bedrock	0.47		
Creedmoor-----------	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.32

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
5C:					
Brickhaven----------	45	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	0.94	Seepage	0.50
		Depth to bedrock	0.47	Depth to soft bedrock	0.05
Creedmoor-----------	30	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.37		
6B:					
Cecil---------------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
7C:					
Cecil---------------	85	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.16	Seepage	0.50
8A:					
Chewacla------------	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
Monacan-------------	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
9B:					
Clifford------------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.32
10C:					
Clifford------------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	1.00
		Slope	0.37		

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
11C:					
Clifford	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	1.00
		Slope	0.16		
12A:					
Codorus	80	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
13B:					
Delila	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
14C:					
Devotion	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.16	Seepage	1.00
14D:					
Devotion	80	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
15A:					
Dogue	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
		Flooding	0.40	Flooding	0.40
15B:					
Dogue	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.68
		Flooding	0.40	Seepage	0.50
16B:					
Enon	35	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.68
				Seepage	0.01

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
16B:					
Helena	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68
				Seepage	0.50
16C:					
Enon	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.37	Seepage	0.01
Helena	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.37	Seepage	0.50
16D:					
Enon	50	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.01
Helena	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Seepage	0.50
17B:					
Enon	50	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.68
				Seepage	0.01
Helena	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68
				Seepage	0.50
17C:					
Enon	40	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.37	Seepage	0.01
Helena	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.37	Seepage	0.50
18D:					
Enon	45	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.01

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
18D:					
Poindexter	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
19D:					
Fairview	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Devotion	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
19E:					
Fairview	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Devotion	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
20B:					
Halifax	80	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Slope	0.68
		Depth to saturated zone	1.00	Depth to saturated zone	0.64
20C:					
Halifax	80	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.64
		Slope	0.16		
21B:					
Helena	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68
				Seepage	0.50
21C:					
Helena	70	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
		Slope	0.37		

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
22B:					
Jackland------------	55	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.32
Mirerock------------	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	1.00	Slope	0.32
23B:					
Mattaponi-----------	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	1.00
				Slope	0.68
Appling-------------	25	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
24B:					
Mayodan-------------	45	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
Exway---------------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	1.00	Slope	0.68
24C:					
Mayodan-------------	41	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.37	Seepage	0.50
Exway---------------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Slope	0.37		
25B:					
Mecklenburg---------	75	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.68
				Seepage	0.50
25C:					
Mecklenburg---------	65	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.37	Seepage	0.50
26B:					
Nathalie------------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.68

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
27C:					
Nathalie------------	55	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
		Slow water movement	0.50		
Halifax-------------	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.64
		Slope	0.16		
28B:					
Oak Level-----------	45	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.68
				Seepage	0.50
Diana Mills---------	20	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to soft bedrock	0.96
		Depth to bedrock	0.99	Slope	0.68
		Large stones content	0.10	Large stones content	0.35
29C:					
Oak Level-----------	40	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.50
		Slope	0.16		
Siloam--------------	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63		
				Depth to soft bedrock	1.00
				Slope	1.00
29D:					
Oak Level-----------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	0.50
Siloam--------------	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00		
				Depth to soft bedrock	1.00
				Slope	1.00
30D:					
Pacolet-------------	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
30D:					
Wateree-------------	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
30E:					
Pacolet-------------	70	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Wateree-------------	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
31B:					
Pinoka--------------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.68
Carbonton-----------	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68
31C:					
Pinoka--------------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.37	Seepage	1.00
Carbonton-----------	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
31D:					
Pinoka--------------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Carbonton-----------	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
32B:					
Poindexter----------	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.68
Wedowee-------------	25	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
32C:					
Poindexter----------	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	1.00
Wedowee-------------	30	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.37	Seepage	0.50
32D:					
Poindexter----------	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Wedowee-------------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
32E:					
Poindexter----------	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Wedowee-------------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
33B:					
Rasalo--------------	35	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.32
Halifax-------------	30	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Slope	0.68
				Depth to saturated zone	0.64

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
33C:					
Rasalo	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	0.37		
Halifax	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Slope	0.16	Depth to saturated zone	0.64
34E:					
Rasalo	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
Spriggs	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
35A:					
Riverview	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.71
Tuckahoe	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.50	Seepage	0.50
36A:					
Sindion	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
37A:					
Speedwell	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.50	Seepage	0.50

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
38B:					
Spriggs	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Seepage	0.50
				Slope	0.32
Toast	25	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
38C:					
Spriggs	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
				Seepage	0.50
Toast	30	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.37	Seepage	0.50
38D:					
Spriggs	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
Toast	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
38E:					
Spriggs	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
Toast	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
39B:					
State	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
		Depth to saturated zone	0.40	Flooding	0.40
		Flooding	0.40	Slope	0.32
40A:					
Toccoa	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	0.92

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
41B:					
Trenholm------------	80	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	1.00	Slope	0.68
42C:					
Wateree-------------	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
42D:					
Wateree-------------	80	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
43A:					
Wehadkee------------	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
44B:					
Wintergreen---------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
45B:					
Worsham-------------	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
W:					
Water---------------	100	Not rated		Not rated	

Table 12.—Sanitary Facilities, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B:							
Appling	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
2C:							
Appling	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.37	Too clayey	0.50
		Slope	0.37			Slope	0.37
Helena	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.37	Too clayey	1.00
		Slope	0.37			Hard to compact	1.00
3B:							
Banister	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Flooding	0.40	Depth to saturated zone	0.99
		Flooding	0.40				
4B:							
Bentley	65	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
		Depth to saturated zone	0.47			Hard to compact	1.00
						Depth to saturated zone	0.11
Nathalie	25	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
5B:							
Brickhaven	50	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.05	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.05
Creedmoor	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
5C:							
Brickhaven	45	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.37	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.05	Hard to compact	1.00
		Slope	0.37			Slope	0.37

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5C:							
Creedmoor	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.37	Too clayey	1.00
		Slope	0.37			Hard to compact	1.00
6B:							
Cecil	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
7C:							
Cecil	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.16	Too clayey	0.50
		Slope	0.16			Slope	0.16
8A:							
Chewacla	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
Monacan	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
9B:							
Clifford	90	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
10C:							
Clifford	90	Very limited		Somewhat limited		Somewhat limited	
		Seepage, bottom layer	1.00	Slope	0.37	Too clayey	0.50
		Too clayey	0.50			Slope	0.37
		Slope	0.37				
11C:							
Clifford	85	Very limited		Somewhat limited		Somewhat limited	
		Seepage, bottom layer	1.00	Slope	0.16	Too clayey	0.50
		Too clayey	0.50			Slope	0.16
		Slope	0.16				
12A:							
Codorus	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
13B:							
Delila	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
14C:							
Devotion	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
		Slope	0.16	Slope	0.16	Slope	0.16
14D:							
Devotion	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
15A:							
Dogue	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Flooding	0.40	Hard to compact	1.00
		Flooding	0.40			Depth to saturated zone	0.68
15B:							
Dogue	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Flooding	0.40	Hard to compact	1.00
		Flooding	0.40			Depth to saturated zone	0.68
16B:							
Enon	35	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Helena	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
16C:							
Enon	35	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.37	Too clayey	1.00
		Slope	0.37			Hard to compact	1.00
						Slope	0.37
Helena	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.37	Too clayey	1.00
		Slope	0.37			Hard to compact	1.00
16D:							
Enon	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16D:							
Helena	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
17B:							
Enon	50	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Helena	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
17C:							
Enon	40	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.37	Too clayey	1.00
		Slope	0.37			Hard to compact	1.00
						Slope	0.37
Helena	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.37	Too clayey	1.00
		Slope	0.37			Hard to compact	1.00
18D:							
Enon	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Poindexter	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00		
19D:							
Fairview	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Devotion	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
19E:							
Fairview	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Devotion	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
20B:							
Halifax	80	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.64	Too clayey	1.00
		Depth to saturated zone	0.99			Hard to compact	1.00
						Depth to saturated zone	0.80
20C:							
Halifax	80	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.64	Too clayey	1.00
		Depth to saturated zone	0.99	Slope	0.16	Hard to compact	1.00
		Slope	0.16			Depth to saturated zone	0.80
21B:							
Helena	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
21C:							
Helena	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.37	Too clayey	1.00
		Slope	0.37			Hard to compact	1.00
22B:							
Jackland	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Mirerock	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
23B:							
Mattaponi	65	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.11
Appling	25	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
24B:							
Mayodan	45	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Exway	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
24C:							
Mayodan	41	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.37	Too clayey	1.00
		Slope	0.37			Hard to compact	1.00
						Slope	0.37
Exway	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00	Slope	0.37	Too clayey	1.00
		Slope	0.37			Hard to compact	1.00
25B:							
Mecklenburg	75	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
25C:							
Mecklenburg	65	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.37	Too clayey	1.00
		Slope	0.37			Hard to compact	1.00
						Slope	0.37
26B:							
Nathalie	90	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
27C:							
Nathalie	55	Very limited		Somewhat limited		Somewhat limited	
		Seepage, bottom layer	1.00	Slope	0.63	Slope	0.63
		Slope	0.63			Too clayey	0.50
		Too clayey	0.50				
Halifax	25	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.64	Too clayey	1.00
		Depth to saturated zone	0.99	Slope	0.16	Hard to compact	1.00
		Slope	0.16			Depth to saturated zone	0.80
28B:							
Oak Level	45	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Diana Mills	20	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.96	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
		Large stones content	0.11			Depth to bedrock	0.96
29C:							
Oak Level	40	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.16	Too clayey	1.00
		Slope	0.16			Hard to compact	1.00
						Slope	0.16

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29C:							
Siloam	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
29D:							
Oak Level	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Siloam	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
30D:							
Pacolet	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Wateree	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
30E:							
Pacolet	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Wateree	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
31B:							
Pinoka	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Carbonton	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
31C:							
Pinoka	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
		Slope	0.37	Slope	0.37	Slope	0.37
Carbonton	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.37	Too clayey	1.00

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
31D:							
Pinoka	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Carbonton	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
32B:							
Poindexter	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00		
Wedowee	25	Somewhat limited		Not limited		Not limited	
		Too clayey	0.50				
32C:							
Poindexter	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.37
		Slope	0.37	Slope	0.37		
Wedowee	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.37	Slope	0.37
		Slope	0.37				
32D:							
Poindexter	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00		
Wedowee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50				
32E:							
Poindexter	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00		
Wedowee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50				
33B:							
Rasalo	35	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33B:							
Halifax	30	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.64	Too clayey	1.00
		Depth to saturated zone	0.99			Hard to compact	1.00
						Depth to saturated zone	0.80
33C:							
Rasalo	35	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
		Slope	0.37	Slope	0.37	Slope	0.37
Halifax	25	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.64	Too clayey	1.00
		Depth to saturated zone	0.99	Slope	0.16	Hard to compact	1.00
		Slope	0.16			Depth to saturated zone	0.80
34E:							
Rasalo	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Spriggs	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
35A:							
Riverview	45	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00				
Tuckahoe	40	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Too clayey	0.50
		Too clayey	0.50				
36A:							
Sindion	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.68
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
37A:							
Speedwell	90	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
38B:							
Spriggs	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Toast	25	Not limited		Not limited		Not limited	

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
38C:							
Spriggs	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
Toast	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
38D:							
Spriggs	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
Toast	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
38E:							
Spriggs	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
Toast	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
39B:							
State	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50	Flooding	0.40		
		Flooding	0.40				
40A:							
Toccoa	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.50
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00	Seepage	1.00		
41B:							
Trenholm	80	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.75	Depth to saturated zone	0.86
42C:							
Wateree	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Seepage	0.50
42D:							
Wateree	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43A:							
Wehadkee------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
44B:							
Wintergreen---------	90	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
45B:							
Worsham-------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 13.—Construction Materials, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1B:					
Appling-------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
2C:					
Appling-------------	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Helena--------------	25	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
3B:					
Banister------------	80	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
4B:					
Bentley-------------	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nathalie------------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
5B:					
Brickhaven----------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Creedmoor-----------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
5C:					
Brickhaven----------	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Creedmoor-----------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
6B:					
Cecil---------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
7C:					
Cecil	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
8A:					
Chewacla	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Monacan	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
9B:					
Clifford	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
10C:					
Clifford	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
11C:					
Clifford	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
12A:					
Codorus	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.03
13B:					
Delila	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
14C:					
Devotion	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
14D:					
Devotion	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
15A:					
Dogue	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
15B:					
Dogue	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
16B:					
Enon----------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Helena--------------	30	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
16C:					
Enon----------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Helena--------------	25	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
16D:					
Enon----------------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Helena--------------	35	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
17B:					
Enon----------------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Helena--------------	40	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
17C:					
Enon----------------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Helena--------------	25	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
18D:					
Enon----------------	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Poindexter----------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
19D:					
Fairview------------	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
19D:					
Devotion	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
19E:					
Fairview	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Devotion	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
20B:					
Halifax	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
20C:					
Halifax	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
21B:					
Helena	80	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
21C:					
Helena	70	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
22B:					
Jackland	55	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Mirerock	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
23B:					
Mattaponi	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Appling	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
24B:					
Mayodan	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Exway	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
24C:					
Mayodan	41	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Exway	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
25B:					
Mecklenburg	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
25C:					
Mecklenburg	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
26B:					
Nathalie	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
27C:					
Nathalie	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Halifax	25	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
28B:					
Oak Level	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Diana Mills	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
29C:					
Oak Level	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Siloam	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
29D:					
Oak Level	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Siloam	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
30D:					
Pacolet	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Wateree	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
30E:					
Pacolet	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Wateree	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
31B:					
Pinoka	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Carbonton	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
31C:					
Pinoka	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Carbonton	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
31D:					
Pinoka	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Carbonton	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
32B:					
Poindexter	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Wedowee	25	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
32C:					
Poindexter	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
32C:					
Wedowee-------------	30	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
32D:					
Poindexter----------	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Wedowee-------------	30	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
32E:					
Poindexter----------	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Wedowee-------------	30	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
33B:					
Rasalo--------------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
Halifax-------------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
33C:					
Rasalo--------------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
Halifax-------------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
34E:					
Rasalo--------------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
Spriggs-------------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
35A:					
Riverview-----------	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
Tuckahoe------------	40	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
36A:					
Sindion	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
37A:					
Speedwell	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
38B:					
Spriggs	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Toast	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
38C:					
Spriggs	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Toast	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
38D:					
Spriggs	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Toast	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
38E:					
Spriggs	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Toast	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
39B:					
State	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
40A:					
Toccoa	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
41B:					
Trenholm	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
42C:					
Wateree-------------	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
42D:					
Wateree-------------	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
43A:					
Wehadkee------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
44B:					
Wintergreen---------	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.03
45B:					
Worsham-------------	75	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
W:					
Water---------------	100	Not rated		Not rated	

Table 13.—Construction Materials, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
1B:							
Appling	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.22	Too clayey	0.00
		Organic matter content low	0.12				
		Too acid	0.84				
2C:							
Appling	55	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.22	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.63
		Too acid	0.84				
Helena	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Wetness depth	0.12	Wetness depth	0.12
				Shrink-swell	0.14	Slope	0.63
		Too acid	0.54				
3B:							
Banister	80	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Wetness depth	0.14	Wetness depth	0.14
				Shrink-swell	0.84	Too acid	0.98
		Too acid	0.54				
4B:							
Bentley	65	Poor		Poor		Poor	
		Wind erosion	0.00	Low strength	0.00	Too sandy	0.00
		Too sandy	0.00	Shrink-swell	0.97		
		Organic matter content low	0.02				
Nathalie	25	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.02			Too acid	0.98
		Too acid	0.54				
5B:							
Brickhaven	50	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.93	Too acid	0.98
				Depth to bedrock	0.95		
		Too acid	0.54				
Creedmoor	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Wetness depth	0.12	Wetness depth	0.12
				Shrink-swell	0.16	Too acid	0.68
		Too acid	0.16				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
5C:							
Brickhaven----------	45	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.93	Slope	0.63
				Depth to bedrock	0.95	Too acid	0.98
		Too acid	0.54				
Creedmoor-----------	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Wetness depth	0.12	Wetness depth	0.12
				Shrink-swell	0.16	Slope	0.63
		Too acid	0.16				
6B:							
Cecil---------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.02			Too acid	0.68
		Too acid	0.16				
7C:							
Cecil---------------	85	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.02			Too acid	0.68
						Slope	0.84
		Too acid	0.16				
8A:							
Chewacla------------	45	Fair		Poor		Poor	
		Too acid	0.84	Wetness depth	0.00	Wetness depth	0.00
Monacan-------------	40	Fair		Poor		Poor	
		Organic matter content low	0.50	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00		
		Too acid	0.84				
		Water erosion	0.99				
9B:							
Clifford------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.54				
10C:							
Clifford------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.63
						Too acid	0.98
		Too acid	0.54				
11C:							
Clifford------------	85	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.84
						Too acid	0.98
		Too acid	0.54				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
12A:							
Codorus	80	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.84	Low strength	0.00		
13B:							
Delila	80	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Shrink-swell	0.93	Too acid	0.68
14C:							
Devotion	85	Fair		Poor		Fair	
		Droughty	0.07	Depth to bedrock	0.00	Depth to bedrock	0.54
		Too acid	0.50			Too acid	0.68
		Organic matter content low	0.50			Slope	0.84
14D:							
Devotion	80	Fair		Poor		Poor	
		Droughty	0.07	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.50	Depth to bedrock	0.54
		Organic matter content low	0.50			Too acid	0.68
15A:							
Dogue	80	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Wetness depth	0.76	Wetness depth	0.76
		Too acid	0.12	Shrink-swell	0.92	Too acid	0.98
15B:							
Dogue	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Wetness depth	0.76	Wetness depth	0.76
		Too acid	0.12	Shrink-swell	0.92	Too acid	0.98
16B:							
Enon	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Shrink-swell	0.14		
		Too acid	0.54				
Helena	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Wetness depth	0.12	Wetness depth	0.12
		Too acid	0.54	Shrink-swell	0.14	Too acid	0.98
16C:							
Enon	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Shrink-swell	0.14	Slope	0.63
		Too acid	0.54				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
16C:							
Helena	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Wetness depth	0.12	Wetness depth	0.12
				Shrink-swell	0.14	Slope	0.63
		Too acid	0.54				
16D:							
Enon	50	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.02	Shrink-swell	0.14	Too clayey	0.00
				Slope	0.50		
		Too acid	0.54				
Helena	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.02	Wetness depth	0.12	Too clayey	0.00
				Shrink-swell	0.14	Wetness depth	0.12
		Too acid	0.54				
17B:							
Enon	50	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Shrink-swell	0.14		
		Too acid	0.54				
Helena	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Wetness depth	0.12	Wetness depth	0.12
				Shrink-swell	0.14	Too acid	0.98
		Too acid	0.54				
17C:							
Enon	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Shrink-swell	0.14	Slope	0.63
		Too acid	0.54				
Helena	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Wetness depth	0.12	Wetness depth	0.12
				Shrink-swell	0.14	Slope	0.63
		Too acid	0.54				
18D:							
Enon	45	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.02	Shrink-swell	0.14	Too clayey	0.00
				Slope	0.50		
		Too acid	0.54				
Poindexter	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.50	Too acid	0.98
		Too acid	0.54			Depth to bedrock	0.99
		Droughty	0.96				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
19D:							
Fairview------------	60	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.50	Slope	0.00
		Organic matter content low	0.02			Too clayey	0.00
						Too acid	0.68
		Too acid	0.50				
Devotion------------	25	Fair		Poor		Poor	
		Droughty	0.07	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.50	Depth to bedrock	0.54
		Organic matter content low	0.50			Too acid	0.68
19E:							
Fairview------------	50	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.02			Too clayey	0.00
						Too acid	0.68
		Too acid	0.50				
Devotion------------	40	Fair		Poor		Poor	
		Droughty	0.07	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.00	Depth to bedrock	0.54
		Organic matter content low	0.50			Too acid	0.68
20B:							
Halifax-------------	80	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.23	Wetness depth	0.62
				Wetness depth	0.62	Too acid	0.98
		Too acid	0.54				
20C:							
Halifax-------------	80	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.23	Wetness depth	0.62
				Wetness depth	0.62	Slope	0.84
		Too acid	0.54				
21B:							
Helena--------------	80	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Wetness depth	0.12	Wetness depth	0.12
				Shrink-swell	0.14	Too acid	0.98
		Too acid	0.54				
21C:							
Helena--------------	70	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Wetness depth	0.12	Wetness depth	0.12
				Shrink-swell	0.14	Slope	0.63
		Too acid	0.54				
22B:							
Jackland------------	55	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.02	Shrink-swell	0.08	Too clayey	0.00
		Too acid	0.54				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
22B:							
Mirerock	20	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Organic matter content low	0.02	Low strength	0.00	Depth to bedrock	0.54
		Droughty	0.49	Shrink-swell	0.87	Too acid	0.98
23B:							
Mattaponi	65	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Shrink-swell	0.91		
		Too acid	0.50				
Appling	25	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.22	Too clayey	0.00
		Organic matter content low	0.12				
		Too acid	0.84				
24B:							
Mayodan	45	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Shrink-swell	0.87	Too acid	0.98
		Too acid	0.54				
Exway	40	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Depth to bedrock	0.10	Low strength	0.00	Depth to bedrock	0.10
		Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.98
24C:							
Mayodan	41	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Shrink-swell	0.87	Slope	0.63
		Too acid	0.54			Too acid	0.98
Exway	40	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Depth to bedrock	0.10	Low strength	0.00	Depth to bedrock	0.10
		Organic matter content low	0.12	Shrink-swell	0.87	Slope	0.63
25B:							
Mecklenburg	75	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.99		
		Too acid	0.84				
25C:							
Mecklenburg	65	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.99	Slope	0.63
		Too acid	0.84				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
26B:							
Nathalie	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.02			Too acid	0.98
		Too acid	0.54				
27C:							
Nathalie	55	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.02			Slope	0.37
		Too acid	0.54			Too acid	0.98
Halifax	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.23	Wetness depth	0.62
		Too acid	0.54	Wetness depth	0.62	Slope	0.84
28B:							
Oak Level	45	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.97		
		Too acid	0.99				
Diana Mills	20	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Depth to bedrock	0.04	Hard to reclaim (rock fragments)	0.00
		Too acid	0.50	Cobble content	0.10	Rock fragments	0.00
29C:							
Oak Level	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.97	Slope	0.84
		Too acid	0.99				
Siloam	25	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Shrink-swell	0.87	Slope	0.37
						Rock fragments	0.88
29D:							
Oak Level	45	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.12	Slope	0.68	Too clayey	0.00
		Too acid	0.99	Shrink-swell	0.97		
Siloam	35	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.32	Depth to bedrock	0.00
				Shrink-swell	0.87	Rock fragments	0.88

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
30D:							
Pacolet	60	Fair		Fair		Poor	
		Organic matter content low	0.01	Slope	0.50	Slope	0.00
		Too acid	0.50			Too acid	0.68
Wateree	25	Fair		Poor		Poor	
		Organic matter content low	0.02	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.07	Slope	0.50	Too acid	0.98
		Too acid	0.54			Depth to bedrock	0.99
30E:							
Pacolet	70	Fair		Poor		Poor	
		Organic matter content low	0.01	Slope	0.00	Slope	0.00
		Too acid	0.50			Too acid	0.68
Wateree	20	Fair		Poor		Poor	
		Organic matter content low	0.02	Slope	0.00	Slope	0.00
		Droughty	0.07	Depth to bedrock	0.00	Too acid	0.98
		Too acid	0.54			Depth to bedrock	0.99
31B:							
Pinoka	45	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.16			Depth to bedrock	0.54
		Too acid	0.50			Too acid	0.68
Carbonton	30	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Wetness depth	0.00
		Too clayey	0.00	Wetness depth	0.00	Too clayey	0.00
		Organic matter content low	0.02	Low strength	0.00	Depth to bedrock	0.35
31C:							
Pinoka	40	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.16			Depth to bedrock	0.54
		Too acid	0.50			Slope	0.63
Carbonton	30	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Wetness depth	0.00
		Too clayey	0.00	Wetness depth	0.00	Too clayey	0.00
		Organic matter content low	0.02	Low strength	0.00	Depth to bedrock	0.35
31D:							
Pinoka	30	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.16	Slope	0.50	Rock fragments	0.00
		Too acid	0.50			Depth to bedrock	0.54
Carbonton	20	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
		Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.02	Low strength	0.00	Too clayey	0.00

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
32B:							
Poindexter----------	60	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Too acid	0.98
		Too acid	0.54			Depth to bedrock	0.99
		Droughty	0.96				
Wedowee-------------	25	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.02			Too acid	0.68
		Too acid	0.50				
32C:							
Poindexter----------	50	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.63
		Too acid	0.54			Too acid	0.98
		Droughty	0.96			Depth to bedrock	0.99
Wedowee-------------	30	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.02			Slope	0.63
		Too acid	0.50			Too acid	0.68
32D:							
Poindexter----------	50	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.54	Slope	0.50	Too acid	0.98
		Droughty	0.96			Depth to bedrock	0.99
Wedowee-------------	30	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.50	Slope	0.00
		Organic matter content low	0.02			Too clayey	0.00
		Too acid	0.50			Too acid	0.68
32E:							
Poindexter----------	60	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.54	Slope	0.00	Too acid	0.98
		Droughty	0.96			Depth to bedrock	0.99
Wedowee-------------	30	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.02			Too clayey	0.00
		Too acid	0.50			Too acid	0.68
33B:							
Rasalo--------------	35	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.90	Too clayey	0.00
		Organic matter content low	0.02				
		Too acid	0.54				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
33B:							
Halifax	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.23	Wetness depth	0.62
				Wetness depth	0.62	Too acid	0.98
		Too acid	0.54				
33C:							
Rasalo	35	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.90	Too clayey	0.00
		Organic matter content low	0.02			Slope	0.63
		Too acid	0.54				
Halifax	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.23	Wetness depth	0.62
				Wetness depth	0.62	Slope	0.84
		Too acid	0.54				
34E:							
Rasalo	35	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.02	Shrink-swell	0.90	Too clayey	0.00
		Too acid	0.54				
Spriggs	25	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.00	Too acid	0.98
		Too acid	0.54	Shrink-swell	0.87	Depth to bedrock	0.99
		Depth to bedrock	0.99				
35A:							
Riverview	45	Fair		Good		Good	
		Too acid	0.84				
		Organic matter content low	0.88				
Tuckahoe	40	Fair		Poor		Good	
		Organic matter content low	0.50	Low strength	0.00		
		Too acid	0.99				
36A:							
Sindion	85	Good		Poor		Fair	
				Low strength	0.00	Wetness depth	0.76
				Wetness depth	0.76		
37A:							
Speedwell	90	Good		Fair		Good	
				Low strength	0.22		
38B:							
Spriggs	60	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Too acid	0.98
				Shrink-swell	0.87	Depth to bedrock	0.99
		Too acid	0.54				
		Depth to bedrock	0.99				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
38B:							
Toast	25	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.02			Too acid	0.68
		Too acid	0.50				
38C:							
Spriggs	50	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.37
				Shrink-swell	0.87	Too acid	0.98
		Too acid	0.54			Depth to bedrock	0.99
		Depth to bedrock	0.99				
Toast	30	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.02			Slope	0.63
						Too acid	0.68
		Too acid	0.50				
38D:							
Spriggs	50	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.50	Too acid	0.98
		Too acid	0.54	Shrink-swell	0.87	Depth to bedrock	0.99
		Depth to bedrock	0.99				
Toast	30	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.82	Slope	0.00
		Organic matter content low	0.02			Too clayey	0.00
						Too acid	0.68
		Too acid	0.50				
38E:							
Spriggs	60	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.00	Too acid	0.98
		Too acid	0.54	Shrink-swell	0.87	Depth to bedrock	0.99
		Depth to bedrock	0.99				
Toast	30	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.02			Too clayey	0.00
						Too acid	0.68
		Too acid	0.50				
39B:							
State	85	Fair		Poor		Fair	
		Organic matter content low	0.02	Low strength	0.00	Too acid	0.98
		Too acid	0.54				
40A:							
Toccoa	90	Fair		Good		Good	
		Too acid	0.84				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
41B:							
Trenholm------------	80	Poor		Fair		Poor	
		Too clayey	0.00	Wetness depth	0.53	Too clayey	0.00
		Organic matter content low	0.01	Shrink-swell	0.94	Wetness depth	0.53
		Too acid	0.50			Too acid	0.68
42C:							
Wateree-------------	85	Fair		Poor		Fair	
		Organic matter content low	0.02	Depth to bedrock	0.00	Slope	0.37
		Droughty	0.07			Too acid	0.98
		Too acid	0.54			Depth to bedrock	0.99
42D:							
Wateree-------------	80	Fair		Poor		Poor	
		Organic matter content low	0.02	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.07	Slope	0.50	Too acid	0.98
		Too acid	0.54			Depth to bedrock	0.99
43A:							
Wehadkee------------	90	Fair		Poor		Poor	
		Too acid	0.84	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00		
44B:							
Wintergreen---------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.98
		Too acid	0.54				
45B:							
Worsham-------------	75	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.00
		Too acid	0.54	Shrink-swell	0.92		
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 14.—Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
1B:							
Appling	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
2C:							
Appling	55	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.01				
Helena	25	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01				
				Seepage	0.01		
3B:							
Banister	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.14	Depth to saturated zone	1.00	Slow refill	0.86
						Cutbanks cave	0.10
4B:							
Bentley	65	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Depth to saturated zone	0.46	Depth to water	1.00
Nathalie	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
5B:							
Brickhaven	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Hard to pack	0.40	Depth to water	1.00
		Depth to bedrock	0.01	Thin layer	0.01		
Creedmoor	35	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
				Hard to pack	0.16		
5C:							
Brickhaven	45	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Hard to pack	0.40	Depth to water	1.00
		Slope	0.01	Thin layer	0.01		
		Depth to bedrock	0.01				
Creedmoor	30	Somewhat limited		Very limited		Very limited	
		Slope	0.01	Depth to saturated zone	1.00	Depth to water	1.00
				Hard to pack	0.16		
6B:							
Cecil	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7C:							
Cecil	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
8A:							
Chewacla	45	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.13		
Monacan	40	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.01		
9B:							
Clifford	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
10C:							
Clifford	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	0.01				
11C:							
Clifford	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
12A:							
Codorus	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Seepage	0.03		
				Piping	0.01		
13B:							
Delila	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
						Cutbanks cave	0.10
				Piping	0.07		
				Seepage	0.01		
14C:							
Devotion	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.11	Seepage	0.04		
14D:							
Devotion	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.86	Depth to water	1.00
		Slope	0.12	Seepage	0.04		
		Depth to bedrock	0.11				
15A:							
Dogue	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.95	Slow refill	0.30
						Cutbanks cave	0.10
						Depth to saturated zone	0.02

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
15B:							
Dogue----------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.95	Slow refill	0.30
						Cutbanks cave	0.10
						Depth to saturated zone	0.02
16B:							
Enon-----------------	35	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.11	Hard to pack	0.31	Depth to water	1.00
Helena---------------	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Seepage	0.01		
16C:							
Enon-----------------	35	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.11	Hard to pack	0.31	Depth to water	1.00
		Slope	0.01				
Helena---------------	25	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01				
				Seepage	0.01		
16D:							
Enon-----------------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.12	Hard to pack	0.31	Depth to water	1.00
		Seepage	0.11				
Helena---------------	35	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.12				
				Seepage	0.01		
17B:							
Enon-----------------	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.11	Hard to pack	0.31	Depth to water	1.00
Helena---------------	40	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Seepage	0.01		
17C:							
Enon-----------------	40	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.11	Hard to pack	0.31	Depth to water	1.00
		Slope	0.01				
Helena---------------	25	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01				
			0.01	Seepage	0.01		
18D:							
Enon-----------------	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.12	Hard to pack	0.31	Depth to water	1.00
		Seepage	0.11				

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
18D:							
Poindexter	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.52	Depth to water	1.00
		Slope	0.12	Seepage	0.01		
		Depth to bedrock	0.01				
19D:							
Fairview	60	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.04	Depth to water	1.00
		Slope	0.12				
Devotion	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.86	Depth to water	1.00
		Slope	0.12	Seepage	0.04		
		Depth to bedrock	0.11				
19E:							
Fairview	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.72	Seepage	0.04	Depth to water	1.00
		Seepage	0.70				
Devotion	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.86	Depth to water	1.00
		Slope	0.88	Seepage	0.04		
		Depth to bedrock	0.11				
20B:							
Halifax	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.95	Depth to saturated zone	0.99	Depth to water	1.00
				Hard to pack	0.33		
20C:							
Halifax	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.95	Depth to saturated zone	0.99	Depth to water	1.00
				Hard to pack	0.33		
21B:							
Helena	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Seepage	0.01		
21C:							
Helena	70	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01				
				Seepage	0.01		
22B:							
Jackland	55	Somewhat limited		Very limited		Very limited	
		Seepage	0.01	Depth to saturated zone	1.00	Depth to water	1.00
				Seepage	0.01		
				Piping	0.01		
Mirerock	20	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.11	Hard to pack	0.89	Depth to water	1.00
		Seepage	0.03	Thin layer	0.86		

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
23B:							
Mattaponi-----------	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.11	Depth to saturated zone	0.46	Slow refill	0.89
						Depth to saturated zone	0.24
						Cutbanks cave	0.10
Appling-------------	25	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
24B:							
Mayodan-------------	45	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Hard to pack	0.21	Depth to water	1.00
Exway---------------	40	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.30	Thin layer	0.98	Depth to water	1.00
		Seepage	0.05	Hard to pack	0.82		
24C:							
Mayodan-------------	41	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Hard to pack	0.21	Depth to water	1.00
		Slope	0.01				
Exway---------------	40	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.30	Thin layer	0.98	Depth to water	1.00
		Seepage	0.05	Hard to pack	0.82		
		Slope	0.01				
25B:							
Mecklenburg---------	75	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
25C:							
Mecklenburg---------	65	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.01				
26B:							
Nathalie------------	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
27C:							
Nathalie------------	55	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	0.01				
Halifax-------------	25	Somewhat limited		Very limited		Very limited	
		Seepage	0.95	Depth to saturated zone	0.99	Depth to water	1.00
				Hard to pack	0.33		
28B:							
Oak Level-----------	45	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
Diana Mills---------	20	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.05	Hard to pack	0.56	Depth to water	1.00
		Depth to bedrock	0.01	Thin layer	0.37		
				Large stones content	0.10		

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
29C:							
Oak Level-----------	40	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
Siloam--------------	25	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.95	Thin layer	1.00	Depth to water	1.00
		Slope	0.01	Seepage	0.01		
29D:							
Oak Level-----------	45	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.10				
Siloam--------------	35	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.95	Thin layer	1.00	Depth to water	1.00
		Slope	0.15	Seepage	0.01		
30D:							
Pacolet-------------	60	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.04	Depth to water	1.00
		Slope	0.12				
Wateree-------------	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.52	Depth to water	1.00
		Slope	0.12	Seepage	0.03		
		Depth to bedrock	0.01				
30E:							
Pacolet-------------	70	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.04	Depth to water	1.00
		Slope	0.50				
Wateree-------------	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.52	Depth to water	1.00
		Slope	0.72	Seepage	0.03		
		Depth to bedrock	0.01				
31B:							
Pinoka--------------	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.11	Seepage	0.01		
Carbonton-----------	30	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.17	Depth to saturated zone	1.00	Depth to water	1.00
				Thin layer	0.91		
				Hard to pack	0.46		
31C:							
Pinoka--------------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.11	Seepage	0.01		
		Slope	0.01				
Carbonton-----------	30	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.17	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01	Thin layer	0.91		
				Hard to pack	0.46		

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
31D:							
Pinoka	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.86	Depth to water	1.00
		Slope	0.12	Seepage	0.01		
		Depth to bedrock	0.11				
Carbonton	20	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.17	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.12	Thin layer	0.91		
				Hard to pack	0.46		
32B:							
Poindexter	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.52	Depth to water	1.00
		Depth to bedrock	0.01	Seepage	0.01		
Wedowee	25	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.01	Depth to water	1.00
32C:							
Poindexter	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.52	Depth to water	1.00
		Depth to bedrock	0.01	Seepage	0.01		
		Slope	0.01				
Wedowee	30	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.01	Depth to water	1.00
		Slope	0.01				
32D:							
Poindexter	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.52	Depth to water	1.00
		Slope	0.12	Seepage	0.01		
		Depth to bedrock	0.01				
Wedowee	30	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.01	Depth to water	1.00
		Slope	0.12				
32E:							
Poindexter	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.52	Depth to water	1.00
		Slope	0.88	Seepage	0.01		
		Depth to bedrock	0.01				
Wedowee	30	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.01	Depth to water	1.00
		Slope	0.50				
33B:							
Rasalo	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.02	Depth to water	1.00
				Piping	0.02		
Halifax	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.95	Depth to saturated zone	0.99	Depth to water	1.00
				Hard to pack	0.33		

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
33C:							
Rasalo--------------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.02	Depth to water	1.00
		Slope	0.01	Piping	0.02		
Halifax-------------	25	Somewhat limited		Very limited		Very limited	
		Seepage	0.95	Depth to saturated zone	0.99	Depth to water	1.00
				Hard to pack	0.33		
34E:							
Rasalo--------------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.02	Depth to water	1.00
		Slope	0.50	Piping	0.02		
Spriggs-------------	25	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.56	Depth to water	1.00
		Slope	0.50				
		Depth to bedrock	0.02				
35A:							
Riverview-----------	45	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Seepage	0.02	Depth to saturated zone	0.81
						Cutbanks cave	0.10
Tuckahoe------------	40	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.19	Depth to water	1.00
36A:							
Sindion-------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.95	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.49	Depth to saturated zone	0.02
37A:							
Speedwell-----------	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.90	Depth to water	1.00
38B:							
Spriggs-------------	60	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.58	Depth to water	1.00
		Depth to bedrock	0.02	Seepage	0.03		
Toast---------------	25	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.04	Depth to water	1.00
38C:							
Spriggs-------------	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.58	Depth to water	1.00
		Depth to bedrock	0.02	Seepage	0.03		
		Slope	0.01				
Toast---------------	30	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.04	Depth to water	1.00
		Slope	0.01				

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
38D:							
Spriggs	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.58	Depth to water	1.00
		Slope	0.12	Seepage	0.03		
		Depth to bedrock	0.02				
Toast	30	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.04	Depth to water	1.00
		Slope	0.08				
38E:							
Spriggs	60	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.72	Thin layer	0.58	Depth to water	1.00
		Seepage	0.70	Seepage	0.03		
		Depth to bedrock	0.02				
Toast	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.88	Seepage	0.04	Depth to water	1.00
		Seepage	0.70				
39B:							
State	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.65	Depth to water	1.00
				Seepage	0.02	Slow refill	0.30
40A:							
Toccoa	90	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	0.02	Depth to saturated zone	0.68
						Cutbanks cave	0.10
41B:							
Trenholm	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.05	Depth to saturated zone	0.99	Depth to water	1.00
				Seepage	0.04		
				Piping	0.02		
42C:							
Wateree	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.52	Depth to water	1.00
		Depth to bedrock	0.01	Seepage	0.03		
		Slope	0.01				
42D:							
Wateree	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.52	Depth to water	1.00
		Slope	0.12	Seepage	0.03		
		Depth to bedrock	0.01				
43A:							
Wehadkee	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.01		
44B:							
Wintergreen	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Hard to pack	0.52	Depth to water	1.00
				Seepage	0.03		

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
45B:							
Worsham-------------	75	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Seepage	0.03		
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 15.—Engineering Soil Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1B:												
Appling---------	0-10	Sandy loam, fine sandy loam	SC-SM, SM	A-4, A-2-4	0	0	95-100	85-100	50-85	25-55	9-20	NP-2
	10-57	Clay, clay loam, sandy clay	ML	A-6, A-4	0	0	95-100	85-100	70-100	40-95	31-49	5-12
	57-65	Clay loam, sandy clay loam, sandy clay	ML, SM	A-4	0	0	95-100	85-100	70-100	40-95	20-34	2-7
2C:												
Appling---------	0-10	Sandy loam, fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0	95-100	85-100	50-85	25-55	9-20	NP-2
	10-57	Clay, clay loam, sandy clay	ML	A-6, A-4	0	0	95-100	85-100	70-100	40-95	31-49	5-12
	57-65	Clay loam, sandy clay loam, sandy clay	ML, SM	A-4	0	0	95-100	85-100	70-100	40-95	20-34	2-7
Helena----------	0-9	Sandy loam, fine sandy loam, loam, coarse sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	55-95	25-75	17-35	2-13
	9-11	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6, A-2-6	0	0	85-100	80-100	65-100	30-80	31-50	13-29
	11-43	Clay, clay loam, sandy clay	CH, CL, SC	A-7-6	0	0	85-100	80-100	70-100	35-95	45-69	25-44
	43-64	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	CL, CL-ML, SC, SC-SM	A-6, A-2-4	0	0	85-100	80-100	50-100	25-80	19-47	3-25

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3B:												
Banister--------	0-8	Fine sandy loam, sandy loam, very fine sandy loam, loam, silt loam	CL-ML, SC, SC-SM, ML, CL	A-4	0	0	85-100	80-100	50-100	25-90	20-40	3-18
	8-14	Loam, silt loam, clay loam, sandy clay loam	SC-SM, CL	A-4, A-6	0	0	85-100	80-100	65-100	30-90	24-44	9-24
	14-58	Clay, clay loam, sandy clay, silty clay loam, silty clay, sandy clay loam	SC, CL, CH	A-7-6, A-6	0	0	85-100	80-100	65-100	30-95	39-67	21-44
	58-65	Clay loam, sandy clay loam, sandy loam, loam, stratified gravelly sand to clay loam	SC, CL	A-6, A-7-6, A-2-4	0	0	75-100	65-100	30-100	3-80	0-50	NP-29

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
4B:												
Bentley---------	0-17	Loamy sand, sandy loam, fine sandy loam, loam, sandy clay loam	CL, SC-SM, SM	A-2-4	0	0-2	85-100	80-100	40-95	10-75	0-39	NP-17
	17-23	Sandy loam, fine sandy loam, loam, loamy sand, sandy clay loam, clay loam, gravelly sandy loam	SC, SC-SM, CL-ML, CL	A-2-4, A-4	0	0-2	65-100	50-100	25-100	8-80	16-40	2-21
	23-61	Clay, sandy clay loam, clay loam, sandy clay, gravelly sandy clay loam	CH, CL	A-7-6, A-6	0	0	65-100	50-100	40-100	20-95	39-67	21-44
	61-80	Sandy clay loam, sandy clay, stratified gravelly sand to clay	CH, CL, SC	A-6, A-7-6, A-2-4, A-1-b	0	0	65-100	50-100	25-100	2-95	0-67	NP-44
Nathalie--------	0-9	Sandy loam, coarse sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4	0	0	90-100	80-100	45-95	20-75	9-20	NP-2
	9-12	Loam, sandy clay loam, clay loam	ML	A-4, A-6, A-2-4	0	0	90-100	80-100	65-100	30-80	20-49	2-12
	12-52	Clay, clay loam	ML	A-4, A-6	0	0	90-100	80-100	70-100	55-95	20-49	2-12
	52-65	Loam, sandy loam, sandy clay loam, clay loam, gravelly sandy loam	ML, SM	A-2-4, A-4	0	0	75-100	65-100	40-100	20-80	9-20	NP-2

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
5B:												
Brickhaven------	0-9	Fine sandy loam, very fine sandy loam, loam, silt loam, gravelly fine sandy loam, channery silt loam	CL, SC, ML	A-4, A-2-4, A-6	0	0-5	75-100	65-100	45-100	25-90	20-35	3-13
	9-50	Clay, silty clay, silty clay loam, clay loam	CL, CH	A-7-6	0	0-2	90-100	85-100	75-100	60-95	43-67	25-44
	50-56	Clay loam, silt loam, silty clay loam, loam, channery silt loam	CL, SC-SM	A-6, A-7-6	0	0-5	75-100	65-100	55-100	40-95	29-48	13-28
	56-66	Bedrock			---	---	---	---	---	---	---	---
Creedmoor-------	0-9	Fine sandy loam, sandy loam, loam, silt loam	CL-ML, SC-SM	A-2-4, A-4, A-6	0-1	0-2	95-100	92-100	55-100	25-90	17-35	2-13
	9-13	Fine sandy loam, sandy loam, loam, silt loam, sandy clay loam, silty clay loam	CL, SC-SM	A-6, A-7-6	0-1	0-2	95-100	92-100	55-100	25-95	19-46	4-25
	13-46	Clay, silty clay, sandy clay, sandy clay loam, silty clay loam, clay loam	CH	A-7-6	0-1	0-2	95-100	92-100	70-100	30-95	44-69	24-44
	46-61	Loam, sandy loam, fine sandy loam, silt loam, clay loam, silty clay loam, sandy clay loam	SC-SM, CL	A-6, A-4, A-7-6	0	0	100	100	60-100	30-95	21-47	4-25

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
5C:												
Brickhaven------	0-9	Fine sandy loam, very fine sandy loam, loam, silt loam, gravelly fine sandy loam, channery silt loam	CL, SC, ML	A-2-4, A-4, A-6	0	0-5	75-100	65-100	45-100	25-90	20-35	3-13
	9-50	Clay, silty clay, silty clay loam, clay loam	CL, CH	A-7-6	0	0-2	90-100	85-100	75-100	60-95	43-67	25-44
	50-56	Clay loam, silt loam, silty clay loam, loam, channery silt loam	CL, SC-SM	A-6, A-7-6	0	0-5	75-100	65-100	55-100	40-95	29-48	13-28
	56-66	Bedrock			---	---	---	---	---	---	---	---
Creedmoor-------	0-9	Fine sandy loam, sandy loam, loam, silt loam	CL-ML, SC-SM	A-2-4, A-4, A-6	0-1	0-2	95-100	92-100	55-100	25-90	17-35	2-13
	9-13	Fine sandy loam, sandy loam, loam, silt loam, sandy clay loam, silty clay loam	CL, SC-SM	A-6, A-7-6	0-1	0-2	95-100	92-100	55-100	25-95	19-46	4-25
	13-46	Clay, silty clay, sandy clay, sandy clay loam, silty clay loam, clay loam	CH	A-7-6	0-1	0-2	95-100	92-100	70-100	30-95	44-69	24-44
	46-61	Loam, sandy loam, fine sandy loam, silt loam, clay loam, silty clay loam, sandy clay loam	CL, SC-SM	A-7-6, A-6, A-4	0	0	100	100	60-100	30-95	21-47	4-25

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
6B:												
Cecil-----------	0-3	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	90-100	85-100	50-95	25-75	11-27	1-10
	3-7	Sandy clay loam, clay loam, loam	ML, SC-SM	A-4	0	0	90-100	85-100	70-100	30-80	11-27	1-10
	7-45	Clay, clay loam, sandy clay	CL	A-6, A-7-6	0	0	90-100	85-100	70-100	40-95	25-49	9-22
	45-72	Loam, sandy loam, fine sandy loam	SC-SM, SM, CL-ML	A-2-4, A-4	0	0	90-100	85-100	50-95	25-75	11-25	1-9
7C:												
Cecil-----------	0-3	Sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0	0	90-100	85-100	50-90	25-55	11-27	1-10
	3-7	Sandy clay loam, clay loam, loam	ML, SC-SM	A-4	0	0	90-100	85-100	70-100	30-80	11-27	1-10
	7-45	Clay, clay loam, sandy clay	CL	A-6, A-7-6	0	0	90-100	85-100	70-100	40-95	25-49	9-22
	45-72	Loam, sandy loam, fine sandy loam	CL-ML, SC-SM, SM	A-2-4, A-4	0	0	90-100	85-100	50-95	25-75	11-25	1-9

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
8A:												
Chewacla--------	0-9	Loam, fine sandy loam, silt loam, sandy loam	CL, CL-ML	A-4, A-6, A-7	0	0	96-100	92-100	55-100	30-90	22-45	6-18
	9-30	Loam, sandy loam, fine sandy loam, silt loam, clay loam, sandy clay loam, silty clay loam	CL, SC-SM	A-6, A-7-6	0	0	96-100	92-100	55-100	30-95	28-47	12-24
	30-50	Sandy clay loam, clay loam, silty clay loam, silt loam, loam, fine sandy loam, sandy loam	SC, CL, SC-SM	A-6, A-7-6	0	0	90-100	80-100	50-100	25-95	28-47	12-24
	50-62	Clay loam, stratified extremely gravelly sand to clay	CL, ML, SC-SM, SM, SC	A-4, A-6, A-7-6, A-1-a, A-2	0	0	30-100	20-100	10-100	1-95	0-58	NP-36

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
8A:												
Monacan---------	0-12	Silt loam, loam, fine sandy loam, sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	96-100	92-100	55-100	25-90	22-43	3-18
	12-34	Silt loam, loam, fine sandy loam, sandy loam, clay loam, silty clay loam, sandy clay loam	CL, SC	A-7-6, A-6	0	0	96-100	92-100	55-100	25-95	28-45	12-25
	34-42	Silty clay loam, clay loam, sandy clay loam, silt loam, loam, fine sandy loam, sandy loam	CL, SC	A-6, A-7-6	0	0	96-100	92-100	60-100	25-95	28-45	12-25
	42-63	Clay, stratified gravelly sand to clay	CH, CL, ML, SC	A-7-6, A-1, A-2-4, A-4, A-6	0	0	60-100	50-100	25-100	2-95	0-58	NP-36
9B:												
Clifford--------	0-6	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0-2	85-100	80-100	50-95	25-75	9-20	NP-2
	6-55	Clay, clay loam	SC-SM, ML	A-5, A-7	0	0	90-100	85-100	75-100	60-95	30-49	5-12
	55-65	Loam, sandy loam, fine sandy loam, sandy clay loam, clay loam	SC-SM, ML	A-2-4, A-4	0	0	90-100	85-100	50-100	25-80	9-20	NP-2

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
10C:												
Clifford--------	0-6	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0-2	85-100	80-100	50-95	25-75	9-20	NP-2
	6-55	Clay, clay loam	SC-SM, ML	A-5, A-7	0	0	90-100	85-100	75-100	60-95	30-49	5-12
	55-65	Loam, sandy loam, fine sandy loam, sandy clay loam, clay loam	SC-SM, ML	A-2-4, A-4	0	0	90-100	85-100	50-100	25-80	9-20	NP-2
11C:												
Clifford--------	0-5	Clay loam, sandy clay loam	ML	A-4	0	0	85-100	80-100	65-100	30-80	25-34	3-7
	5-58	Clay, clay loam	SC-SM, ML	A-5, A-7	0	0	90-100	85-100	75-100	60-95	30-49	5-12
	58-62	Loam, sandy loam, fine sandy loam, sandy clay loam, clay loam	SC-SM, ML	A-2-4, A-4	0	0	90-100	85-100	50-100	25-80	9-20	NP-2
12A:												
Codorus---------	0-8	Loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0	97-100	92-100	75-100	55-90	22-45	3-18
	8-17	Loam, silt loam, clay loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	97-100	92-100	75-100	55-95	18-49	3-28
	17-33	Sandy clay loam, clay loam, silty clay loam	SC, CL	A-2, A-6	0	0	97-100	92-100	70-100	30-95	29-49	13-28
	33-62	Clay loam, sandy clay loam, silty clay loam, silt loam, loam	SC, CL	A-6, A-7-6, A-4	0	0	90-100	80-100	65-100	30-95	24-49	9-28

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
13B:												
Delila----------	0-8	Sandy loam, fine sandy loam, loam, silt loam	SC-SM	A-2-4, A-4, A-6	0	0	90-100	80-100	50-100	25-90	17-35	2-12
	8-38	Clay, sandy clay, clay loam	CH, CL, SC	A-6, A-7-6	0	0	90-100	80-100	70-100	35-95	39-63	21-40
	38-65	Sandy loam, sandy clay loam, clay loam	CL, SC	A-2-4, A-4, A-6	0	0	90-100	80-100	50-100	25-80	18-41	2-21
14C:												
Devotion--------	0-10	Sandy loam, fine sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0-2	85-95	80-92	50-85	25-70	20-39	3-13
	10-30	Sandy loam, loam, fine sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-5	60-95	50-92	30-85	15-70	18-33	3-13
	30-52	Bedrock			---	---	---	---	---	---	---	---
	52-62	Bedrock			---	---	---	---	---	---	---	---
14D:												
Devotion--------	0-10	Sandy loam, fine sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0-2	85-95	80-92	50-85	25-70	20-39	3-13
	10-30	Sandy loam, loam, fine sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-4, A-2-4	0	0-5	60-95	50-92	30-85	15-70	18-33	3-13
	30-52	Bedrock			---	---	---	---	---	---	---	---
	52-62	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
15A:												
Dogue-----------	0-8	Fine sandy loam, loam, sandy loam	CL, SC	A-4	0	0	95-100	92-100	55-95	25-75	21-33	6-13
	8-14	Sandy clay loam, clay loam, loam	SC, CL	A-7-6, A-6	0	0	95-100	92-100	70-100	30-80	32-50	15-29
	14-54	Clay, sandy clay, clay loam, sandy clay loam	CH, CL	A-7-6	0	0	95-100	92-100	70-100	30-95	43-58	24-36
	54-65	Sandy clay loam, clay loam, loam, sandy loam	SC, SC-SM, CL	A-2-4, A-6, A-4	0	0	90-100	80-100	50-100	25-80	20-39	6-21
15B:												
Dogue-----------	0-8	Fine sandy loam, loam, sandy loam	CL, SC	A-4	0	0	95-100	92-100	55-95	25-75	21-33	6-13
	8-14	Sandy clay loam, clay loam, loam	SC, CL	A-7-6, A-6	0	0	95-100	92-100	70-100	30-80	32-50	15-29
	14-54	Clay, sandy clay, clay loam, sandy clay loam	CH, CL	A-7-6	0	0	95-100	92-100	70-100	30-95	43-58	24-36
	54-65	Sandy clay loam, clay loam, loam, sandy loam	CL, SC, SC-SM	A-2-4, A-6, A-4	0	0	90-100	80-100	50-100	25-80	20-39	6-21

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
16B:												
Enon------------	0-6	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-2	60-100	50-100	30-95	15-75	17-35	2-13
	6-11	Sandy clay loam, clay loam, loam	CL, SC	A-6, A-7-6	0	0	90-100	80-100	65-100	30-80	31-49	13-27
	11-38	Clay, clay loam	CH, CL	A-7-6	0	0	90-100	80-100	70-100	55-95	49-69	29-44
	38-43	Sandy clay loam, clay loam, loam	CL, SC	A-7-6	0	0	90-100	80-100	65-100	30-80	32-50	14-28
	43-62	Clay loam, sandy clay loam, loam, sandy loam	CL, SC-SM	A-6, A-7-6	0	0	90-100	80-100	50-100	25-80	24-47	6-25
Helena----------	0-9	Sandy loam, fine sandy loam, loam, coarse sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	55-95	25-75	17-35	2-13
	9-11	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6, A-2-6	0	0	85-100	80-100	65-100	30-80	31-50	13-29
	11-43	Clay, clay loam, sandy clay	CH, CL, SC	A-7-6	0	0	85-100	80-100	70-100	35-95	45-69	25-44
	43-64	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	CL, CL-ML, SC, SC-SM	A-6, A-2-4	0	0	85-100	80-100	50-100	25-80	19-47	3-25

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
16C:												
Enon------------	0-6	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-2	60-100	50-100	30-95	15-75	17-35	2-13
	6-11	Sandy clay loam, clay loam, loam	CL, SC	A-6, A-7-6	0	0	90-100	80-100	65-100	30-80	31-49	13-27
	11-38	Clay, clay loam	CH, CL	A-7-6	0	0	90-100	80-100	70-100	55-95	49-69	29-44
	38-43	Sandy clay loam, clay loam, loam	CL, SC	A-7-6	0	0	90-100	80-100	65-100	30-80	32-50	14-28
	43-62	Clay loam, sandy clay loam, loam, sandy loam	CL, SC-SM	A-6, A-7-6	0	0	90-100	80-100	50-100	25-80	24-47	6-25
Helena----------	0-9	Sandy loam, fine sandy loam, loam, coarse sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	55-95	25-75	17-35	2-13
	9-11	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6, A-2-6	0	0	85-100	80-100	65-100	30-80	31-50	13-29
	11-43	Clay, clay loam, sandy clay	CH, CL, SC	A-7-6	0	0	85-100	80-100	70-100	35-95	45-69	25-44
	43-64	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	CL, CL-ML, SC, SC-SM	A-6, A-2-4	0	0	85-100	80-100	50-100	25-80	19-47	3-25

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
16D:												
Enon------------	0-6	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-2	60-100	50-100	30-95	15-75	17-35	2-13
	6-11	Sandy clay loam, clay loam, loam	CL, SC	A-6, A-7-6	0	0	90-100	80-100	65-100	30-80	31-49	13-27
	11-38	Clay, clay loam	CH, CL	A-7-6	0	0	90-100	80-100	70-100	55-95	49-69	29-44
	38-43	Sandy clay loam, clay loam, loam	CL, SC	A-7-6	0	0	90-100	80-100	65-100	30-80	32-50	14-28
	43-62	Clay loam, sandy clay loam, loam, sandy loam	CL, SC-SM	A-6, A-7-6	0	0	90-100	80-100	50-100	25-80	24-47	6-25
Helena----------	0-9	Sandy loam, fine sandy loam, loam, coarse sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	55-95	25-75	17-35	2-13
	9-11	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6, A-2-6	0	0	85-100	80-100	65-100	30-80	31-50	13-29
	11-43	Clay, clay loam, sandy clay	CH, CL, SC	A-7-6	0	0	85-100	80-100	70-100	35-95	45-69	25-44
	43-64	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	CL, CL-ML, SC, SC-SM	A-6, A-2-4	0	0	85-100	80-100	50-100	25-80	19-47	3-25

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
17B:												
Enon------------	0-6	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-2	60-100	50-100	30-95	15-75	17-35	2-13
	6-11	Sandy clay loam, clay loam, loam	CL, SC	A-6, A-7-6	0	0	90-100	80-100	65-100	30-80	31-49	13-27
	11-38	Clay, clay loam	CH, CL	A-7-6	0	0	90-100	80-100	70-100	55-95	49-69	29-44
	38-43	Sandy clay loam, clay loam, loam	CL, SC	A-7-6	0	0	90-100	80-100	65-100	30-80	32-50	14-28
	43-62	Clay loam, sandy clay loam, loam, sandy loam	CL, SC-SM	A-6, A-7-6	0	0	90-100	80-100	50-100	25-80	24-47	6-25
Helena----------	0-9	Sandy loam, fine sandy loam, loam, coarse sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	55-95	25-75	17-35	2-13
	9-11	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6, A-2-6	0	0	85-100	80-100	65-100	30-80	31-50	13-29
	11-43	Clay, clay loam, sandy clay	CH, CL, SC	A-7-6	0	0	85-100	80-100	70-100	35-95	45-69	25-44
	43-64	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	CL, CL-ML, SC, SC-SM	A-6, A-2-4	0	0	85-100	80-100	50-100	25-80	19-47	3-25

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
17C:												
Enon------------	0-6	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-2	60-100	50-100	30-95	15-75	17-35	2-13
	6-11	Sandy clay loam, clay loam, loam	CL, SC	A-6, A-7-6	0	0	90-100	80-100	65-100	30-80	31-49	13-27
	11-38	Clay, clay loam	CH, CL	A-7-6	0	0	90-100	80-100	70-100	55-95	49-69	29-44
	38-43	Sandy clay loam, clay loam, loam	CL, SC	A-7-6	0	0	90-100	80-100	65-100	30-80	32-50	14-28
	43-62	Clay loam, sandy clay loam, loam, sandy loam	CL, SC-SM	A-6, A-7-6	0	0	90-100	80-100	50-100	25-80	24-47	6-25
Helena----------	0-9	Sandy loam, fine sandy loam, loam, coarse sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	55-95	25-75	17-35	2-13
	9-11	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6, A-2-6	0	0	85-100	80-100	65-100	30-80	31-50	13-29
	11-43	Clay, clay loam, sandy clay	CH, CL, SC	A-7-6	0	0	85-100	80-100	70-100	35-95	45-69	25-44
	43-64	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	CL-ML, SC, SC-SM, CL	A-6, A-2-4	0	0	85-100	80-100	50-100	25-80	19-47	3-25

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
18D:												
Enon------------	0-6	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-2	60-100	50-100	30-95	15-75	17-35	2-13
	6-11	Sandy clay loam, clay loam, loam	CL, SC	A-6, A-7-6	0	0	90-100	80-100	65-100	30-80	31-49	13-27
	11-38	Clay, clay loam	CH, CL	A-7-6	0	0	90-100	80-100	70-100	55-95	49-69	29-44
	38-43	Sandy clay loam, clay loam, loam	CL, SC	A-7-6	0	0	90-100	80-100	65-100	30-80	32-50	14-28
	43-62	Clay loam, sandy clay loam, loam, sandy loam	CL, SC-SM	A-6, A-7-6	0	0	90-100	80-100	50-100	25-80	24-47	6-25
Poindexter------	0-7	Sandy loam, fine sandy loam, loam, gravelly sandy loam, channery sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-5	85-100	75-100	45-95	20-75	17-33	2-12
	7-28	Sandy clay loam, clay loam, loam, gravelly sandy clay loam, channery sandy clay loam	CL, SC	A-6	0	0-5	85-100	75-100	60-100	25-80	29-44	13-25
	28-39	Sandy clay loam, loam, fine sandy loam, sandy loam, gravelly sandy loam, channery sandy loam	CL-ML, SC-SM, SC	A-2-4, A-4, A-6	0	0-5	85-100	75-100	45-95	20-75	20-44	6-25
	39-62	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
19D:												
Fairview--------	0-1	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	50-95	25-75	11-20	NP-2
	1-6	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SC-SM, SM	A-1-b, A-2-4, A-4	0	0	65-100	55-100	35-95	15-75	11-20	NP-2
	6-23	Clay, sandy clay, clay loam	SC-SM, ML	A-6, A-4, A-7	0	0	85-100	80-100	70-100	35-95	31-45	7-13
	23-62	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	50-100	25-80	13-31	NP-7
Devotion--------	0-10	Sandy loam, fine sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0-2	85-95	80-92	50-85	25-70	20-39	3-13
	10-30	Sandy loam, loam, fine sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-5	60-95	50-92	30-85	15-70	18-33	3-13
	30-52	Bedrock			---	---	---	---	---	---	---	---
	52-62	Bedrock			---	---	---	---	---	---	---	---
19E:												
Fairview--------	0-1	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	50-95	25-75	11-20	NP-2
	1-6	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SC-SM, SM	A-1-b, A-2-4, A-4	0	0	65-100	55-100	35-95	15-75	11-20	NP-2
	6-23	Clay, sandy clay, clay loam	SC-SM, ML	A-6, A-4, A-7	0	0	85-100	80-100	70-100	35-95	31-45	7-13
	23-62	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	50-100	25-80	13-31	NP-7

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
19E:												
Devotion--------	0-10	Sandy loam, fine sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0-2	85-95	80-92	50-85	25-70	20-39	3-13
	10-30	Sandy loam, loam, fine sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-5	60-95	50-92	30-85	15-70	18-33	3-13
	30-52	Bedrock			---	---	---	---	---	---	---	---
	52-62	Bedrock			---	---	---	---	---	---	---	---
20B:												
Halifax---------	0-13	Sandy loam, coarse sandy loam, fine sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	45-95	20-75	17-35	2-13
	13-58	Clay, sandy clay, clay loam, sandy clay loam	CH, CL	A-7-6	0	0	85-100	80-100	65-100	30-95	41-69	21-44
	58-65	Clay loam, sandy clay loam, loam, fine sandy loam, sandy loam, loamy sand	SC-SM, SC, CL	A-6, A-4, A-2-4	0	0	85-100	80-100	40-100	10-80	18-44	4-25
20C:												
Halifax---------	0-13	Sandy loam, coarse sandy loam, fine sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	45-95	20-75	17-35	2-13
	13-58	Clay, sandy clay, clay loam, sandy clay loam	CL, CH	A-7-6	0	0	85-100	80-100	65-100	30-95	41-69	21-44
	58-65	Clay loam, sandy clay loam, loam, fine sandy loam, sandy loam, loamy sand	CL, SC, SC-SM	A-2-4, A-6, A-4	0	0	85-100	80-100	40-100	10-80	18-44	4-25

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
21B:												
Helena----------	0-9	Sandy loam, fine sandy loam, loam, coarse sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	55-95	25-75	17-35	2-13
	9-11	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6, A-2-6	0	0	85-100	80-100	65-100	30-80	31-50	13-29
	11-43	Clay, clay loam, sandy clay	CL, SC, CH	A-7-6	0	0	85-100	80-100	70-100	35-95	45-69	25-44
	43-64	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	CL, CL-ML, SC, SC-SM	A-6, A-2-4	0	0	85-100	80-100	50-100	25-80	19-47	3-25
21C:												
Helena----------	0-9	Sandy loam, fine sandy loam, loam, coarse sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	55-95	25-75	17-35	2-13
	9-11	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6, A-2-6	0	0	85-100	80-100	65-100	30-80	31-50	13-29
	11-43	Clay, clay loam, sandy clay	CH, CL, SC	A-7-6	0	0	85-100	80-100	70-100	35-95	45-69	25-44
	43-64	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	CL, CL-ML, SC, SC-SM	A-6, A-2-4	0	0	85-100	80-100	50-100	25-80	19-47	3-25
22B:												
Jackland--------	0-8	Loam, silt loam	CL	A-6, A-7-6	0	0	85-100	80-100	65-100	45-90	26-41	9-19
	8-30	Clay, gravelly clay	CH	A-7-6	0	0	75-100	70-100	65-100	50-95	47-79	25-46
	30-65	Sandy loam, sandy clay loam, clay loam, gravelly sandy loam	SC, CL	A-2-4, A-6	0	0	75-100	70-100	40-100	20-80	20-46	6-27

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
22B:												
Mirerock--------	0-1	Loam, silt loam, gravelly loam	CL, SC-SM	A-4, A-6	0	0	75-100	65-100	55-100	40-90	22-41	6-17
	1-5	Fine sandy loam, loam, silt loam, gravelly fine sandy loam	CL, SC-SM	A-4, A-6	0	0	75-100	65-100	45-100	25-90	20-38	6-19
	5-30	Silty clay, silty clay loam, clay, clay loam, gravelly silty clay	CH, CL	A-7-6	0	0	75-100	65-100	60-100	45-95	43-67	25-44
	30-60	Bedrock			---	---	---	---	---	---	---	---
23B:												
Mattaponi-------	0-14	Sandy loam, fine sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	50-95	25-75	17-33	2-12
	14-36	Clay, sandy clay, clay loam, gravelly sandy clay	CH, CL, SC	A-7-6	0	0	60-100	50-100	40-100	20-95	43-67	25-44
	36-65	Clay loam, sandy clay loam, clay, gravelly sandy clay	CH, CL, SC	A-7-6, A-6	0	0	60-100	50-100	40-100	20-95	35-67	17-44
Appling---------	0-10	Sandy loam, fine sandy loam	SC-SM, SM	A-4, A-2-4	0	0	95-100	85-100	50-85	25-55	9-20	NP-2
	10-57	Clay, clay loam, sandy clay	ML	A-6, A-4	0	0	95-100	85-100	70-100	40-95	31-49	5-12
	57-65	Clay loam, sandy clay loam, sandy clay	ML, SM	A-4	0	0	95-100	85-100	70-100	40-95	20-34	2-7

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
24B:												
Mayodan---------	0-5	Fine sandy loam, sandy loam, loam	CL, SC, SC-SM	A-2-4, A-4	0	0-2	90-100	80-100	50-95	25-75	17-35	2-13
	5-10	Gravelly sandy loam, fine sandy loam, sandy loam, loam	CL, SM, SC-SM	A-2-4, A-4, A-1-b	0	0-5	65-100	55-100	35-95	15-75	16-32	2-13
	10-52	Clay, sandy clay, silty clay loam, silty clay, clay loam	CH, CL	A-7-6	0	0	97-100	92-100	75-100	40-95	43-67	24-44
	52-62	Loam, sandy loam, fine sandy loam, silt loam, clay loam, silty clay loam	SC-SM, CL	A-6, A-4	0	0	97-100	92-100	55-100	25-95	22-46	6-25
Exway-----------	0-4	Clay loam, silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0-2	85-100	80-100	70-100	50-95	30-52	13-28
	4-19	Silty clay, clay, silty clay loam, clay loam	CH, CL	A-7-6	0	0-2	85-100	80-100	70-100	55-95	43-76	25-51
	19-24	Silty clay loam, silty clay, clay	CH, CL	A-7-6, A-6	0	0-2	85-100	80-100	70-100	60-95	37-67	19-44
	24-41	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
24C:												
Mayodan---------	0-5	Fine sandy loam, sandy loam, loam	CL, SC, SC-SM	A-2-4, A-4	0	0-2	90-100	80-100	50-95	25-75	17-35	2-13
	5-10	Gravelly sandy loam, fine sandy loam, sandy loam, loam	CL, SM, SC-SM	A-2-4, A-4, A-1-b	0	0-5	65-100	55-100	35-95	15-75	16-32	2-13
	10-52	Clay, sandy clay, silty clay loam, silty clay, clay loam	CH, CL	A-7-6	0	0	97-100	92-100	75-100	40-95	43-67	24-44
	52-62	Loam, sandy loam, fine sandy loam, silt loam, clay loam, silty clay loam	CL, SC-SM	A-6, A-4	0	0	97-100	92-100	55-100	25-95	22-46	6-25
Exway-----------	0-4	Clay loam, silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0-2	85-100	80-100	70-100	50-95	30-52	13-28
	4-19	Silty clay, clay, silty clay loam, clay loam	CH, CL	A-7-6	0	0-2	85-100	80-100	70-100	55-95	43-76	25-51
	19-24	Silty clay loam, silty clay, clay	CH, CL	A-7-6, A-6	0	0-2	85-100	80-100	70-100	60-95	37-67	19-44
	24-41	Bedrock			---	---	---	---	---	---	---	---
25B:												
Mecklenburg-----	0-4	Loam, fine sandy loam, sandy loam, gravelly sandy loam	CL, CL-ML	A-4, A-6	0	0-2	80-100	70-100	40-95	20-75	20-39	4-17
	4-39	Clay	CL, CH	A-7-6	0	0-2	90-100	85-100	75-100	65-95	48-67	28-44
	39-65	Loam, sandy clay loam, clay loam, sandy loam	CL, SC-SM	A-6, A-7-6	0	0	90-100	85-100	50-100	25-80	29-44	13-25

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
25C:												
Mecklenburg-----	0-4	Loam, fine sandy loam, sandy loam, gravelly sandy loam	CL, CL-ML	A-4, A-6	0	0-2	80-100	70-100	40-95	20-75	20-39	4-17
	4-39	Clay	CL, CH	A-7-6	0	0-2	90-100	85-100	75-100	65-95	48-67	28-44
	39-65	Loam, sandy clay loam, clay loam, sandy loam	SC-SM, CL	A-6, A-7-6	0	0	90-100	85-100	50-100	25-80	29-44	13-25
26B:												
Nathalie--------	0-9	Sandy loam, coarse sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4	0	0	90-100	80-100	45-95	20-75	9-20	NP-2
	9-12	Loam, sandy clay loam, clay loam	ML	A-4, A-6, A-2-4	0	0	90-100	80-100	65-100	30-80	20-49	2-12
	12-52	Clay, clay loam	ML	A-4, A-6	0	0	90-100	80-100	70-100	55-95	20-49	2-12
	52-65	Loam, sandy loam, sandy clay loam, clay loam, gravelly sandy loam	ML, SM	A-2-4, A-4	0	0	75-100	65-100	40-100	20-80	9-20	NP-2
27C:												
Nathalie--------	0-9	Sandy loam, coarse sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4	0	0	90-100	80-100	45-95	20-75	9-20	NP-2
	9-12	Loam, sandy clay loam, clay loam	ML	A-4, A-6, A-2-4	0	0	90-100	80-100	65-100	30-80	20-49	2-12
	12-52	Clay, clay loam	ML	A-4, A-6	0	0	90-100	80-100	70-100	55-95	20-49	2-12
	52-65	Loam, sandy loam, sandy clay loam, clay loam, gravelly sandy loam	ML, SM	A-2-4, A-4	0	0	75-100	65-100	40-100	20-80	9-20	NP-2

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
27C:												
Halifax---------	0-13	Sandy loam, coarse sandy loam, fine sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	45-95	20-75	17-35	2-13
	13-58	Clay, sandy clay, clay loam, sandy clay loam	CL, CH	A-7-6	0	0	85-100	80-100	65-100	30-95	41-69	21-44
	58-65	Clay loam, sandy clay loam, loam, fine sandy loam, sandy loam, loamy sand	CL, SC, SC-SM	A-2-4, A-6, A-4	0	0	85-100	80-100	40-100	10-80	18-44	4-25
28B:												
Oak Level-------	0-6	Loam, fine sandy loam, sandy clay loam, clay loam, gravelly loam	CL, CL-ML, SC	A-4, A-6	0	0-2	75-100	65-100	55-100	40-80	20-47	4-24
	6-42	Clay, clay loam	CH	A-7-6	0	0	90-100	80-100	70-100	55-95	43-63	24-40
	42-50	Loam, clay loam, sandy clay loam	CL	A-6, A-7-6	0	0	90-100	80-100	65-100	30-80	29-50	13-29
	50-65	Loam, sandy clay loam, clay loam, gravelly sandy loam	CL, SC	A-4, A-6	0	0	75-100	65-100	40-100	20-80	20-44	6-25

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
28B:												
Diana Mills-----	0-5	Paracobbly loam, paracobbly sandy loam, very paracobbly loam, gravelly loam, silt loam	CL, SC-SM	A-4, A-6, A-2-4	0-5	0-45	60-100	50-100	30-100	15-90	21-39	6-17
	5-10	Paracobbly loam, paracobbly sandy clay loam, very paracobbly loam, gravelly loam, clay loam	CL, SC-SM	A-6	0-5	0-45	60-100	50-100	40-100	20-80	24-51	9-29
	10-42	Very paracobbly clay, paracobbly clay loam, gravelly clay, clay	CL, CH	A-7-6	0-5	0-45	60-100	50-100	45-100	35-95	43-67	25-44
	42-52	Bedrock			---	---	---	---	---	---	---	---
29C:												
Oak Level-------	0-6	Loam, fine sandy loam, sandy clay loam, clay loam, gravelly loam	CL, CL-ML, SC	A-4, A-6	0	0-2	75-100	65-100	55-100	40-80	20-47	4-24
	6-42	Clay, clay loam	CH	A-7-6	0	0	90-100	80-100	70-100	55-95	43-63	24-40
	42-50	Loam, clay loam, sandy clay loam	CL	A-6, A-7-6	0	0	90-100	80-100	65-100	30-80	29-50	13-29
	50-65	Loam, sandy clay loam, clay loam, gravelly sandy loam	CL, SC	A-4, A-6	0	0	75-100	65-100	40-100	20-80	20-44	6-25

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
29C:												
Siloam----------	0-8	Fine sandy loam, sandy loam, gravelly loam	SC, CL, SC-SM, CL-ML	A-6, A-4, A-2-4, A-2-6	0-2	0-5	65-100	55-100	35-95	15-75	24-52	7-17
	8-15	Sandy clay loam, clay loam, clay, gravelly loam	CH, SC, CL	A-7, A-2-7, A-2-6, A-6	0-2	0-5	65-100	55-100	45-100	20-95	31-56	13-32
	15-26	Bedrock			---	---	---	---	---	---	---	---
	26-36	Bedrock			---	---	---	---	---	---	---	---
29D:												
Oak Level-------	0-6	Loam, fine sandy loam, sandy clay loam, clay loam, gravelly loam	CL, CL-ML, SC	A-6, A-4	0	0-2	75-100	65-100	55-100	40-80	20-47	4-24
	6-42	Clay, clay loam	CH	A-7-6	0	0	90-100	80-100	70-100	55-95	43-63	24-40
	42-50	Loam, clay loam, sandy clay loam	CL	A-6, A-7-6	0	0	90-100	80-100	65-100	30-80	29-50	13-29
	50-65	Loam, sandy clay loam, clay loam, gravelly sandy loam	CL, SC	A-4, A-6	0	0	75-100	65-100	40-100	20-80	20-44	6-25
Siloam----------	0-8	Fine sandy loam, sandy loam, gravelly loam	SC, CL, SC-SM, CL-ML	A-6, A-4, A-2-4, A-2-6	0-2	0-5	65-100	55-100	35-95	15-75	24-52	7-17
	8-15	Sandy clay loam, clay loam, clay, gravelly loam	CH, SC, CL	A-7, A-2-7, A-2-6, A-6	0-2	0-5	65-100	55-100	45-100	20-95	31-56	13-32
	15-26	Bedrock			---	---	---	---	---	---	---	---
	26-36	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
30D:												
Pacolet---------	0-4	Sandy clay loam, clay loam, loam, fine sandy loam, gravelly sandy loam	SC-SM, SM	A-4	0	0	75-100	65-100	45-100	25-80	16-31	NP-7
	4-17	Clay, clay loam, sandy clay	ML	A-6, A-7-5, A-5	0	0	90-100	80-100	70-100	35-95	31-49	7-15
	17-26	Sandy clay loam, clay loam, loam, sandy loam	SC-SM, ML	A-2-4, A-4	0	0	90-100	80-100	50-100	25-80	16-27	NP-5
	26-61	Sandy loam, loam, sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0	0	90-100	80-100	50-100	25-80	13-24	NP-5
Wateree---------	0-6	Fine sandy loam, sandy loam, gravelly sandy loam	SC-SM, SM	A-2, A-4	0	0-2	65-100	55-100	35-85	15-55	17-31	2-12
	6-19	Sandy loam, fine sandy loam, gravelly coarse sandy loam	SM, SC-SM	A-2-4, A-4	0	0-2	65-100	55-100	30-85	15-55	16-30	2-12
	19-39	Sandy loam, fine sandy loam, coarse sandy loam, loamy fine sand, loamy sand, fine sand, gravelly sand	SC-SM, SM, SP-SM	A-1, A-2-4, A-3	0	0-2	65-100	55-100	30-85	3-55	0-27	NP-10
	39-59	Bedrock			---	---	---	---	---	---	---	---
	59-69	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
30E:												
Pacolet---------	0-4	Sandy clay loam, clay loam, loam, fine sandy loam, gravelly sandy loam	SC-SM, SM	A-4	0	0	75-100	65-100	45-100	25-80	16-31	NP-7
	4-17	Clay, clay loam, sandy clay	ML	A-6, A-7-5, A-5	0	0	90-100	80-100	70-100	35-95	31-49	7-15
	17-26	Sandy clay loam, clay loam, loam, sandy loam	SC-SM, ML	A-2-4, A-4	0	0	90-100	80-100	50-100	25-80	16-27	NP-5
	26-61	Sandy loam, loam, sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0	0	90-100	80-100	50-100	25-80	13-24	NP-5
Wateree---------	0-6	Fine sandy loam, sandy loam, gravelly sandy loam	SC-SM, SM	A-2, A-4	0	0-2	65-100	55-100	35-85	15-55	17-31	2-12
	6-19	Sandy loam, fine sandy loam, gravelly coarse sandy loam	SM, SC-SM	A-2-4, A-4	0	0-2	65-100	55-100	30-85	15-55	16-30	2-12
	19-39	Sandy loam, fine sandy loam, coarse sandy loam, loamy fine sand, loamy sand, fine sand, gravelly sand	SC-SM, SM, SP-SM	A-1, A-2-4, A-3	0	0-2	65-100	55-100	30-85	3-55	0-27	NP-10
	39-59	Bedrock			---	---	---	---	---	---	---	---
	59-69	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
31B:												
Pinoka----------	0-10	Gravelly fine sandy loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4, A-1-b	0	0	60-85	50-75	30-65	15-40	17-31	2-10
	10-18	Fine sandy loam, sandy loam, gravelly sandy loam	CL, CL-ML, SC, SC-SM	A-1, A-2-4, A-4, A-6	0	0	60-100	50-100	30-85	15-55	16-31	2-13
	18-27	Loam, fine sandy loam, sandy clay loam, silt loam, gravelly sandy loam	CL, CL-ML, SC, SC-SM	A-1, A-2-4, A-4, A-6	0	0	60-100	50-100	30-100	15-90	16-44	2-25
	27-80	Bedrock			---	---	---	---	---	---	---	---
Carbonton-------	0-3	Fine sandy loam, very fine sandy loam, loam, gravelly silt loam	SC, CL	A-2, A-4	0	0-5	75-100	65-100	45-100	25-90	20-35	4-13
	3-5	Fine sandy loam, very fine sandy loam, loam, silt loam	CL	A-6	0	0-2	90-100	80-100	55-100	30-90	20-35	6-17
	5-28	Clay, clay loam, silty clay loam, silty clay	CL, CH	A-7-6	0	0-2	90-100	80-100	70-100	55-95	43-67	25-44
	28-56	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
31C:												
Pinoka----------	0-10	Gravelly fine sandy loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4, A-1-b	0	0	60-85	50-75	30-65	15-40	17-31	2-10
	10-18	Fine sandy loam, sandy loam, gravelly sandy loam	CL, CL-ML, SC, SC-SM	A-1, A-2-4, A-4, A-6	0	0	60-100	50-100	30-85	15-55	16-31	2-13
	18-27	Loam, fine sandy loam, sandy clay loam, silt loam, gravelly sandy loam	CL, CL-ML, SC, SC-SM	A-1, A-2-4, A-4, A-6	0	0	60-100	50-100	30-100	15-90	16-44	2-25
	27-80	Bedrock			---	---	---	---	---	---	---	---
Carbonton-------	0-3	Fine sandy loam, very fine sandy loam, loam, gravelly silt loam	CL, SC	A-2, A-4	0	0-5	75-100	65-100	45-100	25-90	20-35	4-13
	3-5	Fine sandy loam, very fine sandy loam, loam, silt loam	CL	A-6	0	0-2	90-100	80-100	55-100	30-90	20-35	6-17
	5-28	Clay, clay loam, silty clay loam, silty clay	CH, CL	A-7-6	0	0-2	90-100	80-100	70-100	55-95	43-67	25-44
	28-56	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
31D:												
Pinoka----------	0-10	Gravelly fine sandy loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4, A-1-b	0	0	60-85	50-75	30-65	15-40	17-31	2-10
	10-18	Fine sandy loam, sandy loam, gravelly sandy loam	CL, CL-ML, SC, SC-SM	A-1, A-2-4, A-4, A-6	0	0	60-100	50-100	30-85	15-55	16-31	2-13
	18-27	Loam, fine sandy loam, sandy clay loam, silt loam, gravelly sandy loam	CL, CL-ML, SC, SC-SM	A-1, A-2-4, A-4, A-6	0	0	60-100	50-100	30-100	15-90	16-44	2-25
	27-80	Bedrock			---	---	---	---	---	---	---	---
Carbonton-------	0-3	Fine sandy loam, very fine sandy loam, loam, gravelly silt loam	CL, SC	A-2, A-4	0	0-5	75-100	65-100	45-100	25-90	20-35	4-13
	3-5	Fine sandy loam, very fine sandy loam, loam, silt loam	CL	A-6	0	0-2	90-100	80-100	55-100	30-90	20-35	6-17
	5-28	Clay, clay loam, silty clay loam, silty clay	CH, CL	A-7-6	0	0-2	90-100	80-100	70-100	55-95	43-67	25-44
	28-56	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
32B:												
Poindexter------	0-7	Sandy loam, fine sandy loam, loam, gravelly sandy loam, channery sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-5	85-100	75-100	45-95	20-75	17-33	2-12
	7-28	Sandy clay loam, clay loam, loam, gravelly sandy clay loam, channery sandy clay loam	CL, SC	A-6	0	0-5	85-100	75-100	60-100	25-80	29-44	13-25
	28-39	Sandy clay loam, loam, fine sandy loam, sandy loam, gravelly sandy loam, channery sandy loam	CL-ML, SC, SC-SM	A-6, A-2-4, A-4	0	0-5	85-100	75-100	45-95	20-75	20-44	6-25
	39-62	Bedrock			---	---	---	---	---	---	---	---
Wedowee---------	0-9	Fine sandy loam, sandy loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4	0	0	60-100	50-100	30-85	15-55	9-20	NP-2
	9-15	Sandy clay loam, clay loam, loam, fine sandy loam, gravelly sandy loam	ML, SM	A-4, A-2-4	0	0	60-100	50-100	30-100	15-80	16-27	NP-4
	15-38	Sandy clay, clay, clay loam, sandy clay loam	ML	A-4	0	0	95-100	85-100	70-100	30-95	31-45	7-13
	38-61	Sandy loam, sandy clay loam, clay loam, fine sandy loam, loam	SM, SC-SM, ML	A-2-4, A-4	0	0	95-100	85-100	50-100	25-80	16-31	NP-3

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
32C:												
Poindexter------	0-7	Sandy loam, fine sandy loam, loam, gravelly sandy loam, channery sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-5	85-100	75-100	45-95	20-75	17-33	2-12
	7-28	Sandy clay loam, clay loam, loam, gravelly sandy clay loam, channery sandy clay loam	CL, SC	A-6	0	0-5	85-100	75-100	60-100	25-80	29-44	13-25
	28-39	Sandy clay loam, loam, fine sandy loam, sandy loam, gravelly sandy loam, channery sandy loam	CL-ML, SC, SC-SM	A-6, A-2-4, A-4	0	0-5	85-100	75-100	45-95	20-75	20-44	6-25
	39-62	Bedrock			---	---	---	---	---	---	---	---
Wedowee---------	0-9	Fine sandy loam, sandy loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4	0	0	60-100	50-100	30-85	15-55	9-20	NP-2
	9-15	Sandy clay loam, clay loam, loam, fine sandy loam, gravelly sandy loam	ML, SM	A-4, A-2-4	0	0	60-100	50-100	30-100	15-80	16-27	NP-4
	15-38	Sandy clay, clay, clay loam, sandy clay loam	ML	A-4	0	0	95-100	85-100	70-100	30-95	31-45	7-13
	38-61	Sandy loam, sandy clay loam, clay loam, fine sandy loam, loam	ML, SC-SM, SM	A-2-4, A-4	0	0	95-100	85-100	50-100	25-80	16-31	NP-3

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
32D:												
Poindexter------	0-7	Sandy loam, fine sandy loam, loam, gravelly sandy loam, channery sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-5	85-100	75-100	45-95	20-75	17-33	2-12
	7-28	Sandy clay loam, clay loam, loam, gravelly sandy clay loam, channery sandy clay loam	CL, SC	A-6	0	0-5	85-100	75-100	60-100	25-80	29-44	13-25
	28-39	Sandy clay loam, loam, fine sandy loam, sandy loam, gravelly sandy loam, channery sandy loam	CL-ML, SC, SC-SM	A-6, A-2-4, A-4	0	0-5	85-100	75-100	45-95	20-75	20-44	6-25
	39-62	Bedrock			---	---	---	---	---	---	---	---
Wedowee---------	0-9	Fine sandy loam, sandy loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4	0	0	60-100	50-100	30-85	15-55	9-20	NP-2
	9-15	Sandy clay loam, clay loam, loam, fine sandy loam, gravelly sandy loam	ML, SM	A-4, A-2-4	0	0	60-100	50-100	30-100	15-80	16-27	NP-4
	15-38	Sandy clay, clay, clay loam, sandy clay loam	ML	A-4	0	0	95-100	85-100	70-100	30-95	31-45	7-13
	38-61	Sandy loam, sandy clay loam, clay loam, fine sandy loam, loam	ML, SC-SM, SM	A-2-4, A-4	0	0	95-100	85-100	50-100	25-80	16-31	NP-3

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
32E:												
Poindexter------	0-7	Sandy loam, fine sandy loam, loam, gravelly sandy loam, channery sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-5	85-100	75-100	45-95	20-75	17-33	2-12
	7-28	Sandy clay loam, clay loam, loam, gravelly sandy clay loam, channery sandy clay loam	CL, SC	A-6	0	0-5	85-100	75-100	60-100	25-80	29-44	13-25
	28-39	Sandy clay loam, loam, fine sandy loam, sandy loam, gravelly sandy loam, channery sandy loam	CL-ML, SC, SC-SM	A-6, A-2-4, A-4	0	0-5	85-100	75-100	45-95	20-75	20-44	6-25
	39-62	Bedrock			---	---	---	---	---	---	---	---
Wedowee---------	0-9	Fine sandy loam, sandy loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4	0	0	60-100	50-100	30-85	15-55	9-20	NP-2
	9-15	Sandy clay loam, clay loam, loam, fine sandy loam, gravelly sandy loam	ML, SM	A-4, A-2-4	0	0	60-100	50-100	30-100	15-80	16-27	NP-4
	15-38	Sandy clay, clay, clay loam, sandy clay loam	ML	A-4	0	0	95-100	85-100	70-100	30-95	31-45	7-13
	38-61	Sandy loam, sandy clay loam, clay loam, fine sandy loam, loam	ML, SC-SM, SM	A-2-4, A-4	0	0	95-100	85-100	50-100	25-80	16-31	NP-3

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
33B:												
Rasalo----------	0-6	Sandy loam, loam	SC-SM, SM, SC	A-2-4, A-4	0	0	85-100	80-100	50-95	25-75	17-31	2-10
	6-30	Clay, sandy clay loam, clay loam	CH, CL	A-7-6	0	0	85-100	80-100	60-100	30-95	32-69	14-44
	30-65	Sandy loam, loam	SC-SM, SM, SC	A-2-4, A-4	0	0	85-100	80-100	50-95	25-75	16-27	2-10
Halifax---------	0-13	Sandy loam, coarse sandy loam, fine sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	45-95	20-75	17-35	2-13
	13-58	Clay, sandy clay, clay loam, sandy clay loam	CL, CH	A-7-6	0	0	85-100	80-100	65-100	30-95	41-69	21-44
	58-65	Clay loam, sandy clay loam, loam, fine sandy loam, sandy loam, loamy sand	CL, SC, SC-SM	A-2-4, A-6, A-4	0	0	85-100	80-100	40-100	10-80	18-44	4-25
33C:												
Rasalo----------	0-6	Sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	50-95	25-75	17-31	2-10
	6-30	Clay, sandy clay loam, clay loam	CH, CL	A-7-6	0	0	85-100	80-100	60-100	30-95	32-69	14-44
	30-65	Sandy loam, loam	SC-SM, SM, SC	A-2-4, A-4	0	0	85-100	80-100	50-95	25-75	16-27	2-10

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
33C:												
Halifax---------	0-13	Sandy loam, coarse sandy loam, fine sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	45-95	20-75	17-35	2-13
	13-58	Clay, sandy clay, clay loam, sandy clay loam	CL, CH	A-7-6	0	0	85-100	80-100	65-100	30-95	41-69	21-44
	58-65	Clay loam, sandy clay loam, loam, fine sandy loam, sandy loam, loamy sand	CL, SC, SC-SM	A-2-4, A-6, A-4	0	0	85-100	80-100	40-100	10-80	18-44	4-25
34E:												
Rasalo----------	0-6	Sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	50-95	25-75	17-31	2-10
	6-30	Clay, sandy clay loam, clay loam	CH, CL	A-7-6	0	0	85-100	80-100	60-100	30-95	32-69	14-44
	30-65	Sandy loam, loam	SC-SM, SM, SC	A-2-4, A-4	0	0	85-100	80-100	50-95	25-75	16-27	2-10
Spriggs---------	0-9	Sandy loam, loam	SC-SM, SC, CL	A-2-4, A-4, A-6	0	0-2	95-100	92-100	55-95	25-75	21-33	6-12
	9-38	Sandy clay loam, clay loam, loam	CL, SC	A-7-6, A-6	0	0-2	95-100	92-100	70-100	30-80	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
35A:												
Riverview-------	0-10	Loam, fine sandy loam, silt loam, sandy loam	CL, CL-ML	A-4, A-6	0	0	100	100	60-100	30-90	21-41	6-19
	10-50	Sandy clay loam, loam, clay loam, fine sandy loam, silt loam, silty clay loam	SC, CL	A-6	0	0	100	100	70-100	40-95	28-45	12-25
	50-61	Sandy loam, fine sandy loam, loam, silt loam, loamy sand, sand	SC, SC-SM, SM	A-2-4, A-4	0	0	100	100	50-100	5-90	16-41	1-21
Tuckahoe--------	0-10	Loam, fine sandy loam, silt loam	CL	A-4, A-6	0	0	95-100	92-100	65-100	35-90	25-43	6-17
	10-61	Clay loam, silty clay loam, loam, silt loam	CL	A-6	0	0	95-100	92-100	75-100	55-95	28-45	12-25
	61-68	Silt loam, loam	SC-SM, ML, CL, CL-ML	A-4, A-6	0	0	95-100	92-100	75-100	55-90	18-38	3-19
36A:												
Sindion---------	0-14	Loam, silt loam	CL	A-6	0	0-2	85-100	80-100	70-100	50-90	27-43	9-18
	14-61	Loam, silt loam, clay loam, silty clay loam	CL	A-6	0	0-2	85-100	80-100	70-100	50-95	28-49	12-24
37A:												
Speedwell-------	0-13	Loam, fine sandy loam, sandy loam, silt loam	CL, CL-ML	A-4	0	0-2	85-100	80-100	50-100	25-90	24-37	7-13
	13-65	Loam, silty clay loam, silt loam, clay loam, sandy clay loam	CL, SC, SC-SM	A-6	0	0-2	85-100	80-100	65-100	30-95	28-49	12-24

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
38B:												
Spriggs---------	0-9	Sandy loam, loam	CL, SC, SC-SM	A-2-4, A-4, A-6	0	0-2	95-100	92-100	55-95	25-75	21-33	6-12
	9-38	Sandy clay loam, clay loam, loam	CL, SC	A-7-6, A-6	0	0-2	95-100	92-100	70-100	30-80	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---	---
Toast-----------	0-12	Sandy loam, coarse sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0-2	85-100	80-100	45-95	20-75	9-20	NP-2
	12-29	Clay, clay loam, sandy clay, sandy clay loam	ML	A-4, A-6	0	0	85-100	80-100	65-100	30-95	30-45	6-13
	29-38	Sandy clay loam, clay loam, loam, sandy clay	SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	65-100	30-80	16-31	NP-7
	38-62	Sandy loam, loam, sandy clay loam, coarse sandy loam, loamy coarse sand	SM	A-2-4, A-4	0	0	85-100	80-100	35-95	10-75	9-25	NP-4
38C:												
Spriggs---------	0-9	Sandy loam, loam	CL, SC, SC-SM	A-2-4, A-4, A-6	0	0-2	95-100	92-100	55-95	25-75	21-33	6-12
	9-38	Sandy clay loam, clay loam, loam	CL, SC	A-7-6, A-6	0	0-2	95-100	92-100	70-100	30-80	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
38C:												
Toast-----------	0-12	Sandy loam, coarse sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0-2	85-100	80-100	45-95	20-75	9-20	NP-2
	12-29	Clay, clay loam, sandy clay, sandy clay loam	ML	A-4, A-6	0	0	85-100	80-100	65-100	30-95	30-45	6-13
	29-38	Sandy clay loam, clay loam, loam, sandy clay	SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	65-100	30-80	16-31	NP-7
	38-62	Sandy loam, loam, sandy clay loam, coarse sandy loam, loamy coarse sand	SM	A-2-4, A-4	0	0	85-100	80-100	35-95	10-75	9-25	NP-4
38D:												
Spriggs---------	0-9	Sandy loam, loam	CL, SC, SC-SM	A-2-4, A-4, A-6	0	0-2	95-100	92-100	55-95	25-75	21-33	6-12
	9-38	Sandy clay loam, clay loam, loam	CL, SC	A-7-6, A-6	0	0-2	95-100	92-100	70-100	30-80	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---	---
Toast-----------	0-12	Sandy loam, coarse sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0-2	85-100	80-100	45-95	20-75	9-20	NP-2
	12-29	Clay, clay loam, sandy clay, sandy clay loam	ML	A-4, A-6	0	0	85-100	80-100	65-100	30-95	30-45	6-13
	29-38	Sandy clay loam, clay loam, loam, sandy clay	SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	65-100	30-80	16-31	NP-7
	38-62	Sandy loam, loam, sandy clay loam, coarse sandy loam, loamy coarse sand	SM	A-2-4, A-4	0	0	85-100	80-100	35-95	10-75	9-25	NP-4

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
38E:												
Spriggs	0-9	Sandy loam, loam	CL, SC, SC-SM	A-2-4, A-4, A-6	0	0-2	95-100	92-100	55-95	25-75	21-33	6-12
	9-38	Sandy clay loam, clay loam, loam	CL, SC	A-7-6, A-6	0	0-2	95-100	92-100	70-100	30-80	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---	---
Toast	0-12	Sandy loam, coarse sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0-2	85-100	80-100	45-95	20-75	9-20	NP-2
	12-29	Clay, clay loam, sandy clay, sandy clay loam	ML	A-4, A-6	0	0	85-100	80-100	65-100	30-95	30-45	6-13
	29-38	Sandy clay loam, clay loam, loam, sandy clay	SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	65-100	30-80	16-31	NP-7
	38-62	Sandy loam, loam, sandy clay loam, coarse sandy loam, loamy coarse sand	SM	A-2-4, A-4	0	0	85-100	80-100	35-95	10-75	9-25	NP-4
39B:												
State	0-8	Fine sandy loam, sandy loam, loam, loamy sand	CL-ML, ML, SC-SM, SM	A-4, A-2-4	0	0	90-100	80-100	40-95	10-75	17-31	2-10
	8-14	Loam, fine sandy loam, sandy loam, sandy clay loam	CL-ML, CL, SC-SM	A-4, A-2-4	0	0	90-100	80-100	50-95	25-75	21-36	6-17
	14-48	Clay loam, sandy clay loam, loam	CL, SC	A-6	0	0	90-100	80-100	65-100	30-80	27-43	12-24
	48-65	Fine sandy loam, sandy loam, loamy sand, sand	ML, SC	A-4, A-2-4, A-1-b	0	0	90-100	80-100	40-85	4-55	0-31	NP-13

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
40A:												
Toccoa----------	0-12	Fine sandy loam, sandy loam, loam, silt loam, loamy sand	SC-SM, CL-ML	A-4, A-2-4	0	0	95-100	92-100	45-100	15-90	0-32	NP-10
	12-62	Fine sandy loam, sandy loam, loam, loamy fine sand, loamy sand, sand	CL-ML, SC-SM	A-2-4, A-4, A-1-b	0	0	95-100	92-100	45-95	4-75	0-32	NP-13
41B:												
Trenholm--------	0-9	Sandy loam, fine sandy loam, loam	SC, SC-SM	A-2-4, A-4	0	0	85-100	80-100	50-95	25-75	20-33	4-12
	9-12	Sandy loam, fine sandy loam, sandy clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2-6	0	0	85-100	80-100	50-90	25-55	22-44	7-25
	12-30	Clay, sandy clay, sandy clay loam	CH, CL	A-7-6	0	0	85-100	80-100	65-100	30-95	41-69	21-44
	30-36	Clay loam, sandy clay loam, clay	CL, SC	A-6, A-7-6	0	0	85-100	80-100	65-100	30-95	31-54	13-32
	36-62	Sandy loam, fine sandy loam, loam, sandy clay loam	SC, SC-SM	A-2-6, A-4	0	0	85-100	80-100	50-95	25-75	22-35	7-17

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
42C:												
Wateree---------	0-6	Fine sandy loam, sandy loam, gravelly sandy loam	SM, SC-SM	A-2, A-4	0	0-2	65-100	55-100	35-85	15-55	17-31	2-12
	6-19	Sandy loam, fine sandy loam, gravelly coarse sandy loam	SM, SC-SM	A-2-4, A-4	0	0-2	65-100	55-100	30-85	15-55	16-30	2-12
	19-39	Sandy loam, fine sandy loam, coarse sandy loam, loamy fine sand, loamy sand, fine sand, gravelly sand	SM, SP-SM, SC-SM	A-1, A-2-4, A-3	0	0-2	65-100	55-100	30-85	3-55	0-27	NP-10
	39-59	Bedrock			---	---	---	---	---	---	---	---
	59-69	Bedrock			---	---	---	---	---	---	---	---
42D:												
Wateree---------	0-6	Fine sandy loam, sandy loam, gravelly sandy loam	SC-SM, SM	A-2, A-4	0	0-2	65-100	55-100	35-85	15-55	17-31	2-12
	6-19	Sandy loam, fine sandy loam, gravelly coarse sandy loam	SM, SC-SM	A-2-4, A-4	0	0-2	65-100	55-100	30-85	15-55	16-30	2-12
	19-39	Sandy loam, fine sandy loam, coarse sandy loam, loamy fine sand, loamy sand, fine sand, gravelly sand	SC-SM, SM, SP-SM	A-1, A-2-4, A-3	0	0-2	65-100	55-100	30-85	3-55	0-27	NP-10
	39-59	Bedrock			---	---	---	---	---	---	---	---
	59-69	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
43A:												
Wehadkee--------	0-7	Sandy loam, fine sandy loam, loam, silt loam	ML, SC, SC-SM, SM	A-6, A-4, A-2-4	0	0	100	92-100	55-100	25-90	20-41	2-13
	7-20	Clay loam, silt loam, silty clay loam, loam, sandy clay loam	CL, CL-ML, ML, SC	A-2-4, A-4, A-6, A-7-6	0	0	100	92-100	70-100	30-95	20-47	6-24
	20-61	Clay loam, sandy loam, sandy clay loam, loam, gravelly sandy loam	CL, CL-ML, ML, SC	A-2-4, A-4, A-6, A-7	0	0	100	70-100	40-100	20-80	20-52	6-28
44B:												
Wintergreen-----	0-6	Sandy loam, fine sandy loam, loam, gravelly sandy loam	CL, CL-ML, SC	A-4, A-2-6	0	0-3	75-100	65-100	40-95	20-75	22-39	6-17
	6-70	Clay, sandy clay, clay loam, gravelly clay	CH, CL, SC	A-7-6	0	0-5	75-100	65-100	55-100	30-95	43-63	25-40
45B:												
Worsham---------	0-7	Fine sandy loam, loam, sandy loam	SC-SM, CL	A-6	0	0	90-100	85-100	50-95	25-75	22-41	6-17
	7-14	Sandy clay loam, clay loam	CH, CL, SC	A-6	0	0	90-100	85-100	70-100	30-80	29-51	13-28
	14-47	Sandy clay, clay, clay loam	CH, CL, SC	A-7-6	0	0	90-100	85-100	70-100	40-95	39-63	21-40
	47-57	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6	0	0	90-100	85-100	70-100	30-80	31-50	13-29
	57-61	Sandy loam, sandy clay loam, clay loam	CL, SC	A-2-4, A-4, A-6	0	0	90-100	85-100	50-100	25-80	20-46	6-25
W.												
Water												

Table 16.—Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
1B:														
Appling----------	0-10	50-80	5-45	5-20	1.40-1.65	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.24	.24	4	3	86
	10-57	10-60	5-40	35-60	1.25-1.45	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.20	.20			
	57-65	25-75	5-40	20-40	1.25-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.2	.24	.24			
2C:														
Appling----------	0-10	50-80	5-45	5-20	1.40-1.65	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.24	.24	4	3	86
	10-57	10-60	5-40	35-60	1.25-1.45	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.20	.20			
	57-65	25-75	5-40	20-40	1.25-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.2	.24	.24			
Helena-----------	0-9	30-80	5-45	5-20	1.50-1.60	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.20	.24	4	5	56
	9-11	25-75	5-40	20-40	1.40-1.55	1.40-4.00	0.13-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-43	10-60	5-40	35-60	1.35-1.50	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.2	.20	.20			
	43-64	25-80	5-45	5-35	1.45-1.60	1.40-14.00	0.10-0.20	6.0-8.9	0.0-0.2	.24	.24			
3B:														
Banister---------	0-8	10-80	5-75	7-27	1.35-1.45	4.00-14.00	0.14-0.19	0.0-2.5	1.0-2.0	.24	.28	5	3	86
	8-14	10-70	5-75	15-34	1.30-1.45	4.00-14.00	0.12-0.18	0.0-2.5	0.0-1.0	.28	.32			
	14-58	10-70	5-60	30-60	1.25-1.45	1.40-4.00	0.08-0.17	3.0-5.9	0.0-0.5	.20	.20			
	58-65	25-98	1-45	2-40	1.25-1.45	4.00-141.00	0.04-0.17	3.0-5.9	0.0-0.2	.24	.24			
4B:														
Bentley----------	0-17	30-88	2-45	3-25	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.10	.10	5	2	134
	17-23	30-88	2-45	5-30	1.30-1.55	4.00-42.00	0.05-0.15	0.0-2.9	0.0-0.5	.28	.28			
	23-61	25-75	5-40	30-60	1.30-1.55	4.00-14.00	0.05-0.15	3.0-5.9	0.0-0.2	.28	.28			
	61-80	20-98	1-35	2-60	1.40-1.65	1.50-141.00	0.02-0.18	0.0-5.9	0.0-0.2	.28	.28			
Nathalie---------	0-9	30-80	5-45	5-20	1.40-1.65	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.20	.24	5	3	86
	9-12	25-75	5-45	20-40	1.25-1.55	4.50-14.00	0.15-0.18	1.0-2.9	0.0-0.5	.32	.32			
	12-52	20-40	5-40	35-60	1.25-1.45	4.50-14.00	0.15-0.17	1.0-2.9	0.0-0.2	.20	.20			
	52-65	25-80	5-45	8-35	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	0.0-0.2	.32	.32			
5B:														
Brickhaven-------	0-9	10-80	5-75	7-20	1.50-1.60	4.00-14.00	0.15-0.20	0.0-2.9	1.0-2.0	.24	.28	4	5	56
	9-50	5-40	30-60	35-60	1.35-1.50	0.42-1.40	0.13-0.20	3.0-5.9	0.0-0.5	.20	.20			
	50-56	5-45	20-75	20-40	1.40-1.55	4.00-14.00	0.15-0.20	0.0-2.9	0.0-0.2	.24	.24			
	56-66	---	---	---	---	0.01-1.40	0.00-0.03	---	---	---	---			
Creedmoor--------	0-9	10-80	5-75	5-20	1.50-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-2.0	.28	.28	3	3	86
	9-13	5-80	10-75	7-35	1.45-1.60	1.40-4.00	0.13-0.18	3.0-5.9	0.0-0.5	.32	.32			
	13-46	5-75	5-65	34-60	1.25-1.55	0.01-0.42	0.13-0.15	6.0-8.9	0.0-0.2	.20	.20			
	46-61	5-80	5-75	7-35	1.45-1.60	0.42-1.40	0.15-0.20	6.0-8.9	0.0-0.2	.32	.32			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
5C:														
Brickhaven--------	0-9	10-80	5-75	7-20	1.50-1.60	4.00-14.00	0.15-0.20	0.0-2.9	1.0-2.0	.24	.28	4	5	56
	9-50	5-40	30-60	35-60	1.35-1.50	0.42-1.40	0.13-0.20	3.0-5.9	0.0-0.5	.20	.20			
	50-56	5-45	20-75	20-40	1.40-1.55	4.00-14.00	0.15-0.20	0.0-2.9	0.0-0.2	.24	.24			
	56-66	---	---	---	---	0.01-1.40	0.00-0.03	---	---	---	---			
Creedmoor---------	0-9	10-80	5-75	5-20	1.50-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-2.0	.28	.28	3	3	86
	9-13	5-80	10-75	7-35	1.45-1.60	1.40-4.00	0.13-0.18	3.0-5.9	0.0-0.5	.32	.32			
	13-46	5-75	5-65	34-60	1.25-1.55	0.01-0.42	0.13-0.15	6.0-8.9	0.0-0.2	.20	.20			
	46-61	5-80	5-75	7-35	1.45-1.60	0.42-1.40	0.15-0.20	6.0-8.9	0.0-0.2	.32	.32			
6B:														
Cecil-------------	0-3	30-80	5-45	7-27	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	0.5-1.0	.28	.28	4	3	86
	3-7	30-70	5-35	10-35	1.30-1.50	4.00-14.00	0.13-0.15	0.0-2.9	0.0-0.5	.15	.15			
	7-45	30-60	5-30	34-60	1.30-1.50	4.00-14.00	0.13-0.15	0.0-2.9	0.0-0.2	.20	.20			
	45-72	30-80	5-40	7-27	1.30-1.60	4.00-14.00	0.10-0.20	0.0-2.9	0.0-0.2	.32	.32			
7C:														
Cecil-------------	0-3	25-75	5-40	7-30	1.30-1.60	4.00-14.00	0.11-0.14	0.0-2.9	0.5-1.0	.15	.15	4	3	86
	3-7	30-70	5-35	10-35	1.30-1.50	4.00-14.00	0.13-0.15	0.0-2.9	0.0-0.5	.15	.15			
	7-45	30-60	5-30	34-60	1.30-1.50	4.00-14.00	0.13-0.15	0.0-2.9	0.0-0.2	.20	.20			
	45-72	30-80	5-40	7-27	1.30-1.60	4.00-14.00	0.10-0.20	0.0-2.9	0.0-0.2	.32	.32			
8A:														
Chewacla----------	0-9	15-80	5-75	10-27	1.30-1.60	4.00-14.00	0.15-0.24	0.0-2.9	1.0-4.0	.28	.28	5	5	56
	9-30	5-80	5-75	18-35	1.30-1.60	4.00-14.00	0.12-0.20	0.0-2.9	0.5-2.0	.28	.28			
	30-50	5-80	5-75	18-35	1.30-1.60	4.00-14.00	0.12-0.20	0.0-2.9	0.5-2.0	.15	.15			
	50-62	5-98	1-45	2-50	1.40-1.60	4.00-141.00	0.02-0.15	0.0-2.9	0.0-1.0	.24	.24			
Monacan-----------	0-12	10-80	5-75	7-27	1.00-1.20	4.00-14.00	0.14-0.20	0.0-2.9	2.0-3.0	.37	.37	5	5	56
	12-34	5-50	5-75	18-35	1.20-1.50	4.00-14.00	0.14-0.20	0.0-2.9	0.2-0.8	.28	.28			
	34-42	5-80	5-75	18-35	1.20-1.50	4.00-14.00	0.14-0.20	0.0-2.9	0.2-0.8	.28	.28			
	42-63	5-98	1-45	2-50	1.00-1.30	4.00-141.00	0.04-0.20	0.0-2.9	0.2-0.8	.24	.28			
9B:														
Clifford----------	0-6	30-80	5-40	5-20	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	1.0-2.0	.24	.24	5	3	86
	6-55	15-40	5-40	35-60	1.30-1.50	4.50-14.00	0.13-0.15	1.0-2.9	0.0-0.5	.20	.20			
	55-65	25-80	5-45	5-30	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	0.0-0.2	.32	.32			
10C:														
Clifford----------	0-6	30-80	5-40	5-20	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	1.0-2.0	.24	.24	3	3	86
	6-55	15-40	5-40	35-60	1.30-1.50	4.50-14.00	0.13-0.15	1.0-2.9	0.0-0.5	.20	.20			
	55-65	25-80	5-45	5-30	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	0.0-0.2	.32	.32			
11C:														
Clifford----------	0-5	25-75	5-40	25-40	1.25-1.35	4.50-14.00	0.10-0.14	3.0-5.9	0.5-1.5	.24	.24	4	6	48
	5-58	15-40	5-40	35-60	1.30-1.50	4.50-14.00	0.13-0.15	1.0-2.9	0.0-0.5	.20	.20			
	58-62	25-80	5-45	5-30	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	0.0-0.2	.32	.32			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
12A:														
Codorus----------	0-8	10-50	30-75	7-27	1.20-1.40	4.50-14.00	0.14-0.20	0.0-2.9	2.0-4.0	.28	.28	5	5	56
	8-17	5-45	20-75	7-40	1.20-1.50	4.50-14.00	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
	17-33	5-75	2-65	20-40	1.20-1.50	4.50-14.00	0.14-0.24	0.0-2.9	0.0-0.5	.15	.15			
	33-62	5-75	5-75	15-40	1.20-1.50	4.50-14.00	0.14-0.20	0.0-2.9	0.0-0.5	.24	.24			
13B:														
Delila-----------	0-8	15-80	5-75	5-18	1.20-1.50	1.40-4.00	0.08-0.19	0.0-2.5	0.5-3.0	.17	.20	5	5	56
	8-38	20-60	5-40	30-55	1.35-1.65	0.42-1.40	0.10-0.16	3.0-5.9	0.0-0.5	.17	.20			
	38-65	25-80	5-45	5-30	1.20-1.50	1.40-4.00	0.08-0.19	3.0-4.0	0.0-0.5	.17	.20			
14C:														
Devotion---------	0-10	30-80	5-45	7-20	1.35-1.60	14.50-42.00	0.10-0.13	0.0-2.9	1.0-4.0	.20	.24	3	3	86
	10-30	30-80	5-45	7-20	1.35-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-1.0	.20	.24			
	30-52	---	---	---	---	0.01-14.00	---	---	---	---	---			
	52-62	---	---	---	---	0.01-14.00	---	---	---	---	---			
14D:														
Devotion---------	0-10	30-80	5-45	7-20	1.35-1.60	14.50-42.00	0.10-0.13	0.0-2.9	1.0-4.0	.20	.24	3	3	86
	10-30	30-80	5-45	7-20	1.35-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-1.0	.20	.24			
	30-52	---	---	---	---	0.01-14.00	---	---	---	---	---			
	52-62	---	---	---	---	0.01-14.00	---	---	---	---	---			
15A:														
Dogue------------	0-8	30-80	5-45	10-20	1.30-1.45	4.00-14.00	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32	5	3	86
	8-14	25-75	5-35	22-40	1.45-1.60	4.00-14.00	0.12-0.19	3.0-5.9	0.0-0.5	.15	.15			
	14-54	15-75	5-30	34-50	1.45-1.60	1.40-4.00	0.12-0.19	3.0-5.9	0.0-0.2	.20	.20			
	54-65	15-80	5-40	10-30	1.30-1.50	4.00-42.00	0.05-0.14	0.0-2.9	0.0-0.2	.15	.15			
15B:														
Dogue------------	0-8	30-80	5-45	10-20	1.30-1.45	4.00-14.00	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32	5	3	86
	8-14	25-75	5-35	22-40	1.45-1.60	4.00-14.00	0.12-0.19	3.0-5.9	0.0-0.5	.15	.15			
	14-54	15-75	5-30	34-50	1.45-1.60	1.40-4.00	0.12-0.19	3.0-5.9	0.0-0.2	.20	.20			
	54-65	15-80	5-40	10-30	1.30-1.50	4.00-42.00	0.05-0.14	0.0-2.9	0.0-0.2	.15	.15			
16B:														
Enon-------------	0-6	30-80	5-45	5-20	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.5-2.0	.24	.24	3	5	56
	6-11	25-75	5-45	20-38	1.20-1.40	4.00-14.00	0.12-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-38	10-40	5-40	35-60	1.30-1.50	0.42-1.40	0.12-0.16	6.0-8.9	0.0-0.2	.17	.20			
	38-43	25-75	5-45	20-38	1.20-1.40	1.00-9.00	0.12-0.15	6.0-8.9	0.0-0.2	.15	.15			
	43-62	25-80	5-45	10-35	1.40-1.60	1.00-9.00	0.10-0.15	6.0-8.9	0.0-0.2	.24	.24			
Helena-----------	0-9	30-80	5-45	5-20	1.50-1.60	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.20	.24	4	5	56
	9-11	25-75	5-40	20-40	1.40-1.55	1.40-4.00	0.13-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-43	10-60	5-40	35-60	1.35-1.50	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.2	.20	.20			
	43-64	25-80	5-45	5-35	1.45-1.60	1.40-14.00	0.10-0.20	6.0-8.9	0.0-0.2	.24	.24			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
16C:														
Enon-------------	0-6	30-80	5-45	5-20	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.5-2.0	.24	.24	3	5	56
	6-11	25-75	5-45	20-38	1.20-1.40	4.00-14.00	0.12-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-38	10-40	5-40	35-60	1.30-1.50	0.42-1.40	0.12-0.16	6.0-8.9	0.0-0.2	.17	.20			
	38-43	25-75	5-45	20-38	1.20-1.40	1.00-9.00	0.12-0.15	6.0-8.9	0.0-0.2	.15	.15			
	43-62	25-80	5-45	10-35	1.40-1.60	1.00-9.00	0.10-0.15	6.0-8.9	0.0-0.2	.24	.24			
Helena-----------	0-9	30-80	5-45	5-20	1.50-1.60	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.20	.24	4	5	56
	9-11	25-75	5-40	20-40	1.40-1.55	1.40-4.00	0.13-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-43	10-60	5-40	35-60	1.35-1.50	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.2	.20	.20			
	43-64	25-80	5-45	5-35	1.45-1.60	1.40-14.00	0.10-0.20	6.0-8.9	0.0-0.2	.24	.24			
16D:														
Enon-------------	0-6	30-80	5-45	5-20	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.5-2.0	.24	.24	3	5	56
	6-11	25-75	5-45	20-38	1.20-1.40	4.00-14.00	0.12-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-38	10-40	5-40	35-60	1.30-1.50	0.42-1.40	0.12-0.16	6.0-8.9	0.0-0.2	.17	.20			
	38-43	25-75	5-45	20-38	1.20-1.40	1.00-9.00	0.12-0.15	6.0-8.9	0.0-0.2	.15	.15			
	43-62	25-80	5-45	10-35	1.40-1.60	1.00-9.00	0.10-0.15	6.0-8.9	0.0-0.2	.24	.24			
Helena-----------	0-9	30-80	5-45	5-20	1.50-1.60	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.20	.24	4	5	56
	9-11	25-75	5-40	20-40	1.40-1.55	1.40-4.00	0.13-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-43	10-60	5-40	35-60	1.35-1.50	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.2	.20	.20			
	43-64	25-80	5-45	5-35	1.45-1.60	1.40-14.00	0.10-0.20	6.0-8.9	0.0-0.2	.24	.24			
17B:														
Enon-------------	0-6	30-80	5-45	5-20	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.5-2.0	.24	.24	3	5	56
	6-11	25-75	5-45	20-38	1.20-1.40	4.00-14.00	0.12-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-38	10-40	5-40	35-60	1.30-1.50	0.42-1.40	0.12-0.16	6.0-8.9	0.0-0.2	.17	.20			
	38-43	25-75	5-45	20-38	1.20-1.40	1.00-9.00	0.12-0.15	6.0-8.9	0.0-0.2	.15	.15			
	43-62	25-80	5-45	10-35	1.40-1.60	1.00-9.00	0.10-0.15	6.0-8.9	0.0-0.2	.24	.24			
Helena-----------	0-9	30-80	5-45	5-20	1.50-1.60	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.20	.24	4	5	56
	9-11	25-75	5-40	20-40	1.40-1.55	1.40-4.00	0.13-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-43	10-60	5-40	35-60	1.35-1.50	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.2	.20	.20			
	43-64	25-80	5-45	5-35	1.45-1.60	1.40-14.00	0.10-0.20	6.0-8.9	0.0-0.2	.24	.24			
17C:														
Enon-------------	0-6	30-80	5-45	5-20	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.5-2.0	.24	.24	3	5	56
	6-11	25-75	5-45	20-38	1.20-1.40	4.00-14.00	0.12-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-38	10-40	5-40	35-60	1.30-1.50	0.42-1.40	0.12-0.16	6.0-8.9	0.0-0.2	.17	.20			
	38-43	25-75	5-45	20-38	1.20-1.40	1.00-9.00	0.12-0.15	6.0-8.9	0.0-0.2	.15	.15			
	43-62	25-80	5-45	10-35	1.40-1.60	1.00-9.00	0.10-0.15	6.0-8.9	0.0-0.2	.24	.24			
Helena-----------	0-9	30-80	5-45	5-20	1.50-1.60	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.20	.24	4	5	56
	9-11	25-75	5-40	20-40	1.40-1.55	1.40-4.00	0.13-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-43	10-60	5-40	35-60	1.35-1.50	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.2	.20	.20			
	43-64	25-80	5-45	5-35	1.45-1.60	1.40-14.00	0.10-0.20	6.0-8.9	0.0-0.2	.24	.24			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
18D:														
Enon-------------	0-6	30-80	5-45	5-20	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.5-2.0	.24	.24	3	5	56
	6-11	25-75	5-45	20-38	1.20-1.40	4.00-14.00	0.12-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-38	10-40	5-40	35-60	1.30-1.50	0.42-1.40	0.12-0.16	6.0-8.9	0.0-0.2	.17	.20			
	38-43	25-75	5-45	20-38	1.20-1.40	1.00-9.00	0.12-0.15	6.0-8.9	0.0-0.2	.15	.15			
	43-62	25-80	5-45	10-35	1.40-1.60	1.00-9.00	0.10-0.15	6.0-8.9	0.0-0.2	.24	.24			
Poindexter-------	0-7	30-80	5-45	5-18	1.30-1.55	14.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.17	.24	3	3	86
	7-28	25-75	5-45	20-35	1.35-1.45	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	28-39	30-80	5-45	10-35	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.0-0.2	.10	.15			
	39-62	---	---	---	---	0.01-0.42	---	---	---	---	---			
19D:														
Fairview---------	0-1	30-80	5-45	8-20	1.00-1.50	14.00-42.00	0.08-0.13	0.0-2.9	0.5-2.0	.15	.20	5	3	86
	1-6	30-80	5-45	8-20	1.00-1.50	14.00-42.00	0.04-0.12	0.0-2.9	0.0-0.5	.17	.24			
	6-23	15-60	5-40	35-55	1.20-1.50	4.50-14.00	0.08-0.15	1.0-2.9	0.0-0.2	.20	.20			
	23-62	25-80	5-45	10-35	1.20-1.50	4.50-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.24	.24			
Devotion---------	0-10	30-80	5-45	7-20	1.35-1.60	14.50-42.00	0.10-0.13	0.0-2.9	1.0-4.0	.20	.24	3	3	86
	10-30	30-80	5-45	7-20	1.35-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-1.0	.20	.24			
	30-52	---	---	---	---	0.01-14.00	---	---	---	---	---			
	52-62	---	---	---	---	0.01-14.00	---	---	---	---	---			
19E:														
Fairview---------	0-1	30-80	5-45	8-20	1.00-1.50	14.00-42.00	0.08-0.13	0.0-2.9	0.5-2.0	.15	.20	5	3	86
	1-6	30-80	5-45	8-20	1.00-1.50	14.00-42.00	0.04-0.12	0.0-2.9	0.0-0.5	.17	.24			
	6-23	15-60	5-40	35-55	1.20-1.50	4.50-14.00	0.08-0.15	1.0-2.9	0.0-0.2	.20	.20			
	23-62	25-80	5-45	10-35	1.20-1.50	4.50-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.24	.24			
Devotion---------	0-10	30-80	5-45	7-20	1.35-1.60	14.50-42.00	0.10-0.13	0.0-2.9	1.0-4.0	.20	.24	3	3	86
	10-30	30-80	5-45	7-20	1.35-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-1.0	.20	.24			
	30-52	---	---	---	---	0.01-14.00	---	---	---	---	---			
	52-62	---	---	---	---	0.01-14.00	---	---	---	---	---			
20B:														
Halifax----------	0-13	25-80	5-45	5-20	1.58-1.62	14.00-42.00	0.10-0.12	0.0-2.5	0.5-2.0	.20	.24	5	5	56
	13-58	10-75	5-40	30-60	1.44-1.55	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.5	.17	.20			
	58-65	25-88	2-45	8-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.24	.24			
20C:														
Halifax----------	0-13	25-80	5-45	5-20	1.58-1.62	14.00-42.00	0.10-0.12	0.0-2.5	0.5-2.0	.20	.24	5	5	56
	13-58	10-75	5-40	30-60	1.44-1.55	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.5	.17	.20			
	58-65	25-88	2-45	8-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.24	.24			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
21B:														
Helena-----------	0-9	30-80	5-45	5-20	1.50-1.60	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.20	.24	4	5	56
	9-11	25-75	5-40	20-40	1.40-1.55	1.40-4.00	0.13-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-43	10-60	5-40	35-60	1.35-1.50	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.2	.20	.20			
	43-64	25-80	5-45	5-35	1.45-1.60	1.40-14.00	0.10-0.20	6.0-8.9	0.0-0.2	.24	.24			
21C:														
Helena-----------	0-9	30-80	5-45	5-20	1.50-1.60	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.20	.24	4	5	56
	9-11	25-75	5-40	20-40	1.40-1.55	1.40-4.00	0.13-0.15	3.0-5.9	0.0-0.5	.10	.15			
	11-43	10-60	5-40	35-60	1.35-1.50	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.2	.20	.20			
	43-64	25-80	5-45	5-35	1.45-1.60	1.40-14.00	0.10-0.20	6.0-8.9	0.0-0.2	.24	.24			
22B:														
Jackland---------	0-8	10-50	30-75	15-27	1.00-1.30	4.00-14.00	0.16-0.22	0.0-2.9	0.5-2.0	.28	.32	5	6	48
	8-30	10-40	5-35	35-60	1.20-1.60	0.01-0.42	0.08-0.12	9.0-25.0	0.0-0.5	.20	.20			
	30-65	25-80	5-45	10-38	1.20-1.50	0.42-4.00	0.10-0.14	0.0-2.9	0.0-0.2	.24	.24			
Mirerock---------	0-1	30-50	30-75	10-25	1.20-1.40	4.00-14.00	0.18-0.22	0.0-2.9	1.0-3.0	.32	.32	3	5	56
	1-5	10-80	5-75	10-27	1.20-1.40	4.00-14.00	0.15-0.22	0.0-2.9	0.0-0.5	.32	.32			
	5-30	3-40	10-65	35-60	1.30-1.50	1.40-4.00	0.12-0.16	3.0-5.9	0.0-0.2	.17	.17			
	30-60	---	---	---	---	0.01-0.07	---	---	---	---	---			
23B:														
Mattaponi--------	0-14	30-80	5-45	5-18	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.20	.20	5	3	86
	14-36	20-60	5-30	35-60	1.40-1.65	1.40-4.00	0.12-0.18	3.0-5.9	0.0-0.5	.20	.20			
	36-65	20-70	5-30	25-60	1.40-1.65	1.40-9.00	0.12-0.18	3.0-5.9	0.0-0.2	.24	.24			
Appling----------	0-10	50-80	5-45	5-20	1.40-1.65	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.24	.24	4	3	86
	10-57	10-60	5-40	35-60	1.25-1.45	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.20	.20			
	57-65	25-75	5-40	20-40	1.25-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.2	.24	.24			
24B:														
Mayodan----------	0-5	30-80	5-45	5-20	1.40-1.65	14.00-42.00	0.11-0.17	0.0-2.9	0.5-2.0	.24	.28	4	3	86
	5-10	30-80	5-45	5-20	1.40-1.70	14.00-42.00	0.08-0.17	0.0-2.9	0.1-0.5	.15	.24			
	10-52	5-60	5-60	34-60	1.25-1.55	4.00-14.00	0.12-0.18	3.0-5.9	0.0-0.2	.17	.20			
	52-62	5-80	5-75	10-35	1.40-1.60	4.00-14.00	0.10-0.20	3.0-5.9	0.0-0.2	.32	.32			
Exway------------	0-4	5-50	20-75	20-40	1.25-1.60	4.00-14.00	0.14-0.20	0.0-2.9	0.5-2.0	.17	.20	3	6	48
	4-19	2-40	15-65	35-70	1.25-1.60	1.40-4.00	0.14-0.20	3.0-5.9	0.0-0.5	.15	.17			
	19-24	2-40	20-65	27-60	1.25-1.60	1.40-4.00	0.14-0.20	3.0-5.9	0.0-0.2	.28	.37			
	24-41	---	---	---	---	0.01-1.40	0.00-0.01	---	---	---	---			
24C:														
Mayodan----------	0-5	30-80	5-45	5-20	1.40-1.65	14.00-42.00	0.11-0.17	0.0-2.9	0.5-2.0	.24	.28	4	3	86
	5-10	30-80	5-45	5-20	1.40-1.70	14.00-42.00	0.08-0.17	0.0-2.9	0.1-0.5	.15	.24			
	10-52	5-60	5-60	34-60	1.25-1.55	4.00-14.00	0.12-0.18	3.0-5.9	0.0-0.2	.17	.20			
	52-62	5-80	5-75	10-35	1.40-1.60	4.00-14.00	0.10-0.20	3.0-5.9	0.0-0.2	.32	.32			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
24C:														
Exway------------	0-4	5-50	20-75	20-40	1.25-1.60	4.00-14.00	0.14-0.20	0.0-2.9	0.5-2.0	.17	.20	3	6	48
	4-19	2-40	15-65	35-70	1.25-1.60	1.40-4.00	0.14-0.20	3.0-5.9	0.0-0.5	.15	.17			
	19-24	2-40	20-65	27-60	1.25-1.60	1.40-4.00	0.14-0.20	3.0-5.9	0.0-0.2	.28	.37			
	24-41	---	---	---	---	0.01-1.40	0.00-0.01	---	---	---	---			
25B:														
Mecklenburg------	0-4	30-80	5-45	8-25	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.5-2.0	.20	.28	4	5	56
	4-39	5-40	5-35	40-60	1.40-1.60	0.42-1.40	0.12-0.14	3.0-5.9	0.0-0.5	.17	.20			
	39-65	25-80	5-45	15-35	1.40-1.60	4.00-14.00	0.10-0.17	0.0-2.9	0.0-0.2	.24	.32			
25C:														
Mecklenburg------	0-4	30-80	5-45	8-25	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.5-2.0	.20	.28	4	5	56
	4-39	5-40	5-35	40-60	1.40-1.60	0.42-1.40	0.12-0.14	3.0-5.9	0.0-0.5	.17	.20			
	39-65	25-80	5-45	15-35	1.40-1.60	4.00-14.00	0.10-0.17	0.0-2.9	0.0-0.2	.24	.32			
26B:														
Nathalie---------	0-9	30-80	5-45	5-20	1.40-1.65	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.20	.24	5	3	86
	9-12	25-75	5-45	20-40	1.25-1.55	4.50-14.00	0.15-0.18	1.0-2.9	0.0-0.5	.32	.32			
	12-52	20-40	5-40	35-60	1.25-1.45	4.50-14.00	0.15-0.17	1.0-2.9	0.0-0.2	.20	.20			
	52-65	25-80	5-45	8-35	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	0.0-0.2	.32	.32			
27C:														
Nathalie---------	0-9	30-80	5-45	5-20	1.40-1.65	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.20	.24	5	3	86
	9-12	25-75	5-45	20-40	1.25-1.55	4.50-14.00	0.15-0.18	1.0-2.9	0.0-0.5	.32	.32			
	12-52	20-40	5-40	35-60	1.25-1.45	4.50-14.00	0.15-0.17	1.0-2.9	0.0-0.2	.20	.20			
	52-65	25-80	5-45	8-35	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	0.0-0.2	.32	.32			
Halifax----------	0-13	25-80	5-45	5-20	1.58-1.62	14.00-42.00	0.10-0.12	0.0-2.5	0.5-2.0	.20	.24	5	5	56
	13-58	10-75	5-40	30-60	1.44-1.55	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.5	.17	.20			
	58-65	25-88	2-45	8-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.24	.24			
28B:														
Oak Level--------	0-6	25-80	5-45	8-35	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.5	0.5-2.0	.24	.28	5	5	56
	6-42	10-40	5-40	34-55	1.40-1.60	1.45-4.00	0.12-0.14	3.0-5.9	0.0-0.5	.20	.20			
	42-50	25-75	5-45	20-40	1.35-1.55	4.00-14.00	0.12-0.16	0.0-5.9	0.0-0.2	.32	.32			
	50-65	25-80	5-45	10-35	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.2	.32	.32			
Diana Mills------	0-5	10-80	5-75	10-25	1.30-1.70	14.00-42.00	0.11-0.15	0.0-2.9	0.5-2.0	.17	.28	4	3	86
	5-10	25-75	5-40	15-40	1.20-1.50	0.42-1.40	0.15-0.20	0.0-5.9	0.0-1.0	.20	.32			
	10-42	15-40	5-30	35-60	1.30-1.60	1.40-4.00	0.15-0.20	3.0-5.9	0.0-0.5	.10	.20			
	42-52	---	---	---	---	0.01-0.42	---	---	---	---	---			
29C:														
Oak Level--------	0-6	25-80	5-45	8-35	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.5	0.5-2.0	.24	.28	5	5	56
	6-42	10-40	5-40	34-55	1.40-1.60	1.45-4.00	0.12-0.14	3.0-5.9	0.0-0.5	.20	.20			
	42-50	25-75	5-45	20-40	1.35-1.55	4.00-14.00	0.12-0.16	0.0-5.9	0.0-0.2	.32	.32			
	50-65	25-80	5-45	10-35	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.2	.32	.32			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
29C:														
Siloam-----------	0-8	30-80	5-45	12-25	1.30-1.60	14.00-42.00	0.10-0.17	0.0-2.9	1.0-8.0	.24	.32	2	3	86
	8-15	15-75	5-45	20-45	1.35-1.60	1.40-4.00	0.06-0.17	3.0-5.9	0.1-1.0	.10	.15			
	15-26	---	---	---	---	0.00-0.06	0.00-0.01	---	---	---	---			
	26-36	---	---	---	---	0.00-0.01	0.00-0.01	---	---	---	---			
29D:														
Oak Level--------	0-6	25-80	5-45	8-35	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.5	0.5-2.0	.24	.28	5	5	56
	6-42	10-40	5-40	34-55	1.40-1.60	1.45-4.00	0.12-0.14	3.0-5.9	0.0-0.5	.20	.20			
	42-50	25-75	5-45	20-40	1.35-1.55	4.00-14.00	0.12-0.16	0.0-5.9	0.0-0.2	.32	.32			
	50-65	25-80	5-45	10-35	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.2	.32	.32			
Siloam-----------	0-8	30-80	5-45	12-25	1.30-1.60	14.00-42.00	0.10-0.17	0.0-2.9	1.0-8.0	.24	.32	2	3	86
	8-15	15-75	5-45	20-45	1.35-1.60	1.40-4.00	0.06-0.17	3.0-5.9	0.1-1.0	.10	.15			
	15-26	---	---	---	---	0.00-0.06	0.00-0.01	---	---	---	---			
	26-36	---	---	---	---	0.00-0.01	0.00-0.01	---	---	---	---			
30D:														
Pacolet----------	0-4	25-80	5-45	15-35	1.30-1.50	4.00-14.00	0.10-0.14	0.0-2.9	0.5-1.0	.10	.15	2	5	56
	4-17	15-60	2-40	35-60	1.30-1.50	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.17	.20			
	17-26	25-80	5-45	15-30	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.15	.15			
	26-61	25-80	5-45	10-30	1.25-1.55	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.1	.24	.24			
Wateree----------	0-6	50-80	5-45	5-18	1.40-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.5-1.0	.24	.28	3	3	86
	6-19	50-80	5-45	5-18	1.30-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.20	.24			
	19-39	50-98	1-45	2-15	1.40-1.70	14.00-141.00	0.04-0.12	0.0-2.9	0.0-0.2	.24	.24			
	39-59	---	---	---	---	0.10-14.00	---	---	---	---	---			
	59-69	---	---	---	---	0.01-0.07	---	---	---	---	---			
30E:														
Pacolet----------	0-4	25-80	5-45	15-35	1.30-1.50	4.00-14.00	0.10-0.14	0.0-2.9	0.5-1.0	.10	.15	2	5	56
	4-17	15-60	2-40	35-60	1.30-1.50	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.17	.20			
	17-26	25-80	5-45	15-30	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.15	.15			
	26-61	25-80	5-45	10-30	1.25-1.55	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.1	.24	.24			
Wateree----------	0-6	50-80	5-45	5-18	1.40-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.5-1.0	.24	.28	3	3	86
	6-19	50-80	5-45	5-18	1.30-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.20	.24			
	19-39	50-98	1-45	2-15	1.40-1.70	14.00-141.00	0.04-0.12	0.0-2.9	0.0-0.2	.24	.24			
	39-59	---	---	---	---	0.10-14.00	---	---	---	---	---			
	59-69	---	---	---	---	0.01-0.07	---	---	---	---	---			
31B:														
Pinoka-----------	0-10	50-80	5-45	5-15	1.50-1.60	14.00-70.00	0.10-0.14	0.0-2.9	0.5-2.0	.17	.28	2	2	134
	10-18	50-80	5-45	5-20	1.45-1.60	14.00-42.00	0.13-0.18	0.0-2.9	0.0-0.2	.24	.32			
	18-27	10-80	5-75	5-35	1.45-1.60	14.00-42.00	0.13-0.20	0.0-2.9	0.0-0.2	.32	.32			
	27-80	---	---	---	---	0.01-1.40	0.00-0.01	---	---	---	---			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
31B:														
Carbonton--------	0-3	10-80	5-75	8-20	1.20-1.40	4.00-14.00	0.11-0.18	0.0-2.9	0.5-2.0	.24	.28	3	2	56
	3-5	10-80	5-75	10-25	1.25-1.50	4.00-14.00	0.12-0.20	0.0-2.9	0.0-0.2	.32	.32			
	5-28	5-40	15-65	35-60	1.25-1.55	0.42-1.40	0.12-0.17	3.0-5.9	0.0-0.2	.20	.20			
	28-56	---	---	---	---	0.01-1.40	0.00-0.01	---	---	---	---			
31C:														
Pinoka-----------	0-10	50-80	5-45	5-15	1.50-1.60	14.00-70.00	0.10-0.14	0.0-2.9	0.5-2.0	.17	.28	2	2	134
	10-18	50-80	5-45	5-20	1.45-1.60	14.00-42.00	0.13-0.18	0.0-2.9	0.0-0.2	.24	.32			
	18-27	10-80	5-75	5-35	1.45-1.60	14.00-42.00	0.13-0.20	0.0-2.9	0.0-0.2	.32	.32			
	27-80	---	---	---	---	0.01-1.40	0.00-0.01	---	---	---	---			
Carbonton--------	0-3	10-80	5-75	8-20	1.20-1.40	4.00-14.00	0.11-0.18	0.0-2.9	0.5-2.0	.24	.28	3	2	56
	3-5	10-80	5-75	10-25	1.25-1.50	4.00-14.00	0.12-0.20	0.0-2.9	0.0-0.2	.32	.32			
	5-28	5-40	15-65	35-60	1.25-1.55	0.42-1.40	0.12-0.17	3.0-5.9	0.0-0.2	.20	.20			
	28-56	---	---	---	---	0.01-1.40	0.00-0.01	---	---	---	---			
31D:														
Pinoka-----------	0-10	50-80	5-45	5-15	1.50-1.60	14.00-70.00	0.10-0.14	0.0-2.9	0.5-2.0	.17	.28	2	2	134
	10-18	50-80	5-45	5-20	1.45-1.60	14.00-42.00	0.13-0.18	0.0-2.9	0.0-0.2	.24	.32			
	18-27	10-80	5-75	5-35	1.45-1.60	14.00-42.00	0.13-0.20	0.0-2.9	0.0-0.2	.32	.32			
	27-80	---	---	---	---	0.01-1.40	0.00-0.01	---	---	---	---			
Carbonton--------	0-3	10-80	5-75	8-20	1.20-1.40	4.00-14.00	0.11-0.18	0.0-2.9	0.5-2.0	.24	.28	3	2	56
	3-5	10-80	5-75	10-25	1.25-1.50	4.00-14.00	0.12-0.20	0.0-2.9	0.0-0.2	.32	.32			
	5-28	5-40	15-65	35-60	1.25-1.55	0.42-1.40	0.12-0.17	3.0-5.9	0.0-0.2	.20	.20			
	28-56	---	---	---	---	0.01-1.40	0.00-0.01	---	---	---	---			
32B:														
Poindexter-------	0-7	30-80	5-45	5-18	1.30-1.55	14.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.17	.24	3	3	86
	7-28	25-75	5-45	20-35	1.35-1.45	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	28-39	30-80	5-45	10-35	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.0-0.2	.10	.15			
	39-62	---	---	---	---	0.01-0.42	---	---	---	---	---			
Wedowee----------	0-9	50-80	5-35	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.24	.28	3	3	86
	9-15	25-80	5-35	14-30	1.30-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.10	.15			
	15-38	20-75	5-30	34-55	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.2	.10	.10			
	38-61	25-80	5-40	15-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.24	.24			
32C:														
Poindexter-------	0-7	30-80	5-45	5-18	1.30-1.55	14.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.17	.24	3	3	86
	7-28	25-75	5-45	20-35	1.35-1.45	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	28-39	30-80	5-45	10-35	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.0-0.2	.10	.15			
	39-62	---	---	---	---	0.01-0.42	---	---	---	---	---			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
32C:														
Wedowee----------	0-9	50-80	5-35	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.24	.28	3	3	86
	9-15	25-80	5-35	14-30	1.30-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.10	.15			
	15-38	20-75	5-30	34-55	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.2	.10	.10			
	38-61	25-80	5-40	15-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.24	.24			
32D:														
Poindexter-------	0-7	30-80	5-45	5-18	1.30-1.55	14.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.17	.24	3	3	86
	7-28	25-75	5-45	20-35	1.35-1.45	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	28-39	30-80	5-45	10-35	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.0-0.2	.10	.15			
	39-62	---	---	---	---	0.01-0.42	---	---	---	---	---			
Wedowee----------	0-9	50-80	5-35	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.24	.28	3	3	86
	9-15	25-80	5-35	14-30	1.30-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.10	.15			
	15-38	20-75	5-30	34-55	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.2	.10	.10			
	38-61	25-80	5-40	15-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.24	.24			
32E:														
Poindexter-------	0-7	30-80	5-45	5-18	1.30-1.55	14.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.17	.24	3	3	86
	7-28	25-75	5-45	20-35	1.35-1.45	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	28-39	30-80	5-45	10-35	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.0-0.2	.10	.15			
	39-62	---	---	---	---	0.01-0.42	---	---	---	---	---			
Wedowee----------	0-9	50-80	5-35	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.24	.28	3	3	86
	9-15	25-80	5-35	14-30	1.30-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.10	.15			
	15-38	20-75	5-30	34-55	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.2	.10	.10			
	38-61	25-80	5-40	15-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.24	.24			
33B:														
Rasalo-----------	0-6	30-80	5-45	5-15	1.45-1.65	14.00-42.00	0.11-0.18	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	6-30	15-75	5-40	20-60	1.20-1.40	1.45-4.00	0.12-0.16	6.0-8.9	0.0-0.5	.20	.20			
	30-65	30-80	5-45	5-15	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.2	.24	.24			
Halifax----------	0-13	25-80	5-45	5-20	1.58-1.62	14.00-42.00	0.10-0.12	0.0-2.5	0.5-2.0	.20	.24	5	5	56
	13-58	10-75	5-40	30-60	1.44-1.55	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.5	.17	.20			
	58-65	25-88	2-45	8-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.24	.24			
33C:														
Rasalo-----------	0-6	30-80	5-45	5-15	1.45-1.65	14.00-42.00	0.11-0.18	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	6-30	15-75	5-40	20-60	1.20-1.40	1.45-4.00	0.12-0.16	6.0-8.9	0.0-0.5	.20	.20			
	30-65	30-80	5-45	5-15	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.2	.24	.24			
Halifax----------	0-13	25-80	5-45	5-20	1.58-1.62	14.00-42.00	0.10-0.12	0.0-2.5	0.5-2.0	.20	.24	5	5	56
	13-58	10-75	5-40	30-60	1.44-1.55	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.5	.17	.20			
	58-65	25-88	2-45	8-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.24	.24			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
34E:														
Rasalo-----------	0-6	30-80	5-45	5-15	1.45-1.65	14.00-42.00	0.11-0.18	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	6-30	15-75	5-40	20-60	1.20-1.40	1.45-4.00	0.12-0.16	6.0-8.9	0.0-0.5	.20	.20			
	30-65	30-80	5-45	5-15	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.2	.24	.24			
Spriggs----------	0-9	30-80	5-45	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.9	0.5-2.0	.20	.20	3	8	0
	9-38	25-75	5-45	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.15	.15			
	38-59	---	---	---	---	0.01-0.40	---	---	---	---	---			
35A:														
Riverview--------	0-10	15-80	5-75	10-27	1.30-1.60	4.00-14.00	0.16-0.24	0.0-2.9	0.5-2.0	.28	.28	5	5	56
	10-50	5-80	5-75	18-35	1.20-1.40	4.00-14.00	0.15-0.22	0.0-2.9	0.5-1.0	.15	.15			
	50-61	5-98	1-75	4-30	1.20-1.50	4.00-141.00	0.04-0.22	0.0-2.9	0.5-1.0	.24	.24			
Tuckahoe---------	0-10	15-80	5-75	10-25	1.20-1.50	4.00-42.00	0.10-0.20	0.0-2.9	2.0-4.0	.24	.24	5	3	86
	10-61	5-45	5-75	18-35	1.20-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.2-0.8	.20	.20			
	61-68	15-45	30-75	7-27	1.35-1.45	4.00-14.00	0.17-0.22	0.0-2.9	0.0-0.5	.43	.43			
36A:														
Sindion----------	0-14	10-45	30-75	15-27	1.35-1.60	4.00-14.00	0.15-0.24	0.0-2.9	1.0-3.0	.28	.28	5	5	56
	14-61	5-45	25-75	18-35	1.45-1.70	4.00-14.00	0.14-0.22	0.0-2.9	0.5-3.0	.28	.28			
37A:														
Speedwell--------	0-13	15-80	5-75	12-20	1.20-1.40	4.00-14.00	0.15-0.24	0.0-2.9	1.0-3.0	.24	.24	5	5	56
	13-65	5-75	5-75	18-35	1.30-1.50	4.00-14.00	0.10-0.22	0.0-2.9	0.5-3.0	.24	.24			
38B:														
Spriggs----------	0-9	30-80	5-45	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.9	0.5-2.0	.20	.20	3	3	86
	9-38	25-75	5-45	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.15	.15			
	38-59	---	---	---	---	0.01-0.40	---	---	---	---	---			
Toast------------	0-12	30-80	5-40	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.5	0.5-3.0	.24	.24	5	3	86
	12-29	20-75	5-35	34-55	1.30-1.55	4.50-14.00	0.12-0.17	0.0-2.9	0.0-0.5	.20	.20			
	29-38	25-75	5-40	15-35	1.35-1.60	4.00-14.00	0.10-0.18	0.0-2.5	0.0-0.2	.15	.15			
	38-62	25-98	1-40	5-27	1.20-1.50	4.50-42.00	0.08-0.15	0.0-2.5	0.0-0.2	.24	.24			
38C:														
Spriggs----------	0-9	30-80	5-45	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.9	0.5-2.0	.20	.20	3	3	86
	9-38	25-75	5-45	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.15	.15			
	38-59	---	---	---	---	0.01-0.40	---	---	---	---	---			
Toast------------	0-12	30-80	5-40	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.5	0.5-3.0	.24	.24	5	3	86
	12-29	20-75	5-35	34-55	1.30-1.55	4.50-14.00	0.12-0.17	0.0-2.9	0.0-0.5	.20	.20			
	29-38	25-75	5-40	15-35	1.35-1.60	4.00-14.00	0.10-0.18	0.0-2.5	0.0-0.2	.15	.15			
	38-62	25-98	1-40	5-27	1.20-1.50	4.50-42.00	0.08-0.15	0.0-2.5	0.0-0.2	.24	.24			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
38D:														
Spriggs----------	0-9	30-80	5-45	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.9	0.5-2.0	.20	.20	3	3	86
	9-38	25-75	5-45	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.15	.15			
	38-59	---	---	---	---	0.01-0.40	---	---	---	---	---			
Toast------------	0-12	30-80	5-40	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.5	0.5-3.0	.24	.24	5	3	86
	12-29	20-75	5-35	34-55	1.30-1.55	4.50-14.00	0.12-0.17	0.0-2.9	0.0-0.5	.20	.20			
	29-38	25-75	5-40	15-35	1.35-1.60	4.00-14.00	0.10-0.18	0.0-2.5	0.0-0.2	.15	.15			
	38-62	25-98	1-40	5-27	1.20-1.50	4.50-42.00	0.08-0.15	0.0-2.5	0.0-0.2	.24	.24			
38E:														
Spriggs----------	0-9	30-80	5-45	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.9	0.5-2.0	.20	.20	3	3	86
	9-38	25-75	5-45	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.9	0.0-0.5	.15	.15			
	38-59	---	---	---	---	0.01-0.40	---	---	---	---	---			
Toast------------	0-12	30-80	5-40	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.5	0.5-3.0	.24	.24	5	3	86
	12-29	20-75	5-35	34-55	1.30-1.55	4.50-14.00	0.12-0.17	0.0-2.9	0.0-0.5	.20	.20			
	29-38	25-75	5-40	15-35	1.35-1.60	4.00-14.00	0.10-0.18	0.0-2.5	0.0-0.2	.15	.15			
	38-62	25-98	1-40	5-27	1.20-1.50	4.50-42.00	0.08-0.15	0.0-2.5	0.0-0.2	.24	.24			
39B:														
State------------	0-8	30-88	2-45	5-15	1.25-1.40	4.00-42.00	0.08-0.18	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	8-14	30-80	5-45	10-25	1.25-1.45	4.00-14.00	0.08-0.15	0.0-2.9	0.2-0.8	.32	.32			
	14-48	25-75	5-45	18-34	1.35-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.2	.24	.24			
	48-65	50-98	1-40	2-20	1.35-1.70	4.00-141.00	0.02-0.15	0.0-2.9	0.0-0.2	.32	.32			
40A:														
Toccoa-----------	0-12	10-88	2-75	2-15	1.40-1.55	14.00-42.00	0.09-0.14	0.0-2.5	1.0-3.0	.24	.28	4	3	86
	12-62	50-99	0-45	2-19	1.40-1.50	14.00-142.00	0.03-0.12	0.0-2.9	0.0-1.0	.20	.24			
41B:														
Trenholm---------	0-9	30-80	5-40	8-18	1.30-1.45	14.00-42.00	0.10-0.14	0.0-2.9	0.5-2.0	.20	.20	3	3	86
	9-12	50-80	5-35	12-35	1.30-1.50	4.00-14.00	0.10-0.16	0.0-2.9	0.0-0.5	.24	.24			
	12-30	20-75	5-35	30-60	1.30-1.60	0.01-0.42	0.10-0.14	6.0-8.9	0.0-0.2	.20	.20			
	30-36	20-75	5-40	20-45	1.30-1.60	1.40-4.00	0.10-0.16	3.0-5.9	0.0-0.2	.24	.24			
	36-62	30-80	5-35	12-25	1.30-1.45	1.40-4.00	0.10-0.16	0.0-2.9	0.0-0.1	.24	.24			
42C:														
Wateree----------	0-6	50-80	5-45	5-18	1.40-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.5-1.0	.24	.28	3	3	86
	6-19	50-80	5-45	5-18	1.30-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.20	.24			
	19-39	50-98	1-45	2-15	1.40-1.70	14.00-141.00	0.04-0.12	0.0-2.9	0.0-0.2	.24	.24			
	39-59	---	---	---	---	0.10-14.00	---	---	---	---	---			
	59-69	---	---	---	---	0.01-0.07	---	---	---	---	---			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
42D:														
Wateree----------	0-6	50-80	5-45	5-18	1.40-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.5-1.0	.24	.28	3	3	86
	6-19	50-80	5-45	5-18	1.30-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.20	.24			
	19-39	50-98	1-45	2-15	1.40-1.70	14.00-141.00	0.04-0.12	0.0-2.9	0.0-0.2	.24	.24			
	39-59	---	---	---	---	0.10-14.00	---	---	---	---	---			
	59-69	---	---	---	---	0.01-0.07	---	---	---	---	---			
43A:														
Wehadkee---------	0-7	10-80	5-75	5-20	1.35-1.60	4.00-42.00	0.10-0.22	0.0-2.9	2.0-5.0	.17	.17	5	3	86
	7-20	5-75	5-75	10-34	1.30-1.50	4.00-14.00	0.12-0.20	0.0-2.9	0.0-2.0	.20	.20			
	20-61	25-80	5-45	10-40	1.30-1.50	4.00-14.00	0.10-0.20	0.0-2.9	0.0-2.0	.24	.24			
44B:														
Wintergreen------	0-6	30-80	5-45	10-25	1.20-1.50	4.00-42.00	0.14-0.19	0.0-2.9	1.0-2.0	.24	.24	5	6	48
	6-70	15-60	5-40	35-55	1.20-1.50	4.00-14.00	0.12-0.17	3.0-5.9	0.0-0.5	.20	.20			
45B:														
Worsham----------	0-7	30-80	5-40	10-25	1.25-1.55	4.00-14.00	0.14-0.20	0.0-2.9	1.0-3.0	.28	.28	4	5	56
	7-14	25-75	5-35	20-40	1.35-1.65	4.00-14.00	0.12-0.16	0.0-2.9	0.2-1.5	.15	.15			
	14-47	15-60	5-35	30-55	1.35-1.65	0.01-0.42	0.12-0.16	3.0-5.9	0.0-0.5	.10	.10			
	47-57	25-75	5-35	20-40	1.20-1.50	1.40-4.00	0.10-0.19	3.0-5.9	0.0-0.5	.15	.15			
	57-61	25-80	5-40	10-35	1.20-1.50	4.00-14.00	0.08-0.19	0.0-5.9	0.0-0.5	.24	.24			
W.														
Water														

Table 17.—Chemical Soil Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
1B:				
Appling	0-10	1.6-6.5	1.2-4.9	4.5-6.5
	10-57	3.5-7.1	2.6-5.3	4.5-6.5
	57-65	2.0-5.1	1.5-3.8	4.5-5.5
2C:				
Appling	0-10	1.6-6.5	1.2-4.9	4.5-6.5
	10-57	3.5-7.1	2.6-5.3	4.5-6.5
	57-65	2.0-5.1	1.5-3.8	4.5-5.5
Helena	0-9	2.9-12	2.2-8.6	3.5-6.5
	9-11	7.0-13	5.2-10	3.5-6.5
	11-43	11-22	8.4-17	3.5-5.5
	43-64	5.2-13	3.9-10	3.5-5.5
3B:				
Banister	0-8	4.0-11	3.0-8.4	5.1-7.3
	8-14	4.0-11	3.0-8.4	5.1-7.3
	14-58	5.0-16	3.8-12	5.1-7.3
	58-65	2.0-14	1.3-13	5.1-7.3
4B:				
Bentley	0-17	1.9-11	1.4-8.1	4.5-6.5
	17-23	1.2-8.6	0.9-6.5	4.5-6.5
	23-61	7.5-16	5.6-12	4.5-5.5
	61-80	0.5-16	0.4-12	4.5-5.5
Nathalie	0-9	1.6-6.5	1.2-4.9	4.5-6.5
	9-12	2.0-5.1	1.5-3.8	4.5-6.5
	12-52	3.5-6.5	2.6-4.8	4.5-5.5
	52-65	0.8-4.0	0.6-3.0	4.5-5.5
5B:				
Brickhaven	0-9	4.7-12	3.5-8.6	3.5-6.5
	9-50	12-22	9.2-17	3.5-5.5
	50-56	7.0-14	5.2-11	3.5-5.5
	56-66	---	---	---
Creedmoor	0-9	3.6-12	2.7-8.6	3.5-6.5
	9-13	7.0-13	5.2-10	3.5-5.5
	13-46	12-22	9.2-17	3.5-5.5
	46-61	10-15	7.9-11	3.5-5.5
5C:				
Brickhaven	0-9	4.7-12	3.5-8.6	3.5-6.5
	9-50	12-22	9.2-17	3.5-5.5
	50-56	7.0-14	5.2-11	3.5-5.5
	56-66	---	---	---
Creedmoor	0-9	3.6-12	2.7-8.6	3.5-6.5
	9-13	7.0-13	5.2-10	3.5-5.5
	13-46	12-22	9.2-17	3.5-5.5
	46-61	10-15	7.9-11	3.5-5.5

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
6B:				
Cecil----------------	0-3	1.6-4.8	1.2-3.6	4.5-6.5
	3-7	2.0-4.6	1.5-3.5	4.5-5.5
	7-45	3.5-6.5	2.6-4.8	4.5-5.5
	45-72	1.0-3.5	0.8-2.6	4.5-5.5
7C:				
Cecil----------------	0-3	1.6-4.8	1.2-3.6	4.5-6.5
	3-7	2.0-4.6	1.5-3.5	4.5-5.5
	7-45	3.5-6.5	2.6-4.8	4.5-5.5
	45-72	1.0-3.5	0.8-2.6	4.5-5.5
8A:				
Chewacla-------------	0-9	5.8-18	4.3-14	4.5-6.5
	9-30	7.4-17	5.6-13	4.5-6.5
	30-50	7.4-17	5.6-13	4.5-7.8
	50-62	0.7-20	0.5-15	4.5-7.8
Monacan--------------	0-12	7.0-16	5.2-12	5.1-7.3
	12-34	6.9-14	5.1-10	5.1-7.3
	34-42	6.9-14	5.1-10	5.1-7.3
	42-63	1.3-19	0.9-14	5.1-7.3
9B:				
Clifford-------------	0-6	2.8-6.5	2.1-4.9	4.5-6.5
	6-55	3.4-7.1	2.5-5.3	4.5-6.0
	55-65	1.6-5.8	1.2-4.0	4.5-6.0
10C:				
Clifford-------------	0-6	2.8-6.5	2.1-4.9	4.5-6.5
	6-55	3.4-7.1	2.5-5.3	4.5-6.0
	55-65	1.6-5.8	1.2-4.0	4.5-6.0
11C:				
Clifford-------------	0-5	3.8-7.4	1.4-6.0	4.5-6.5
	5-58	3.4-7.1	2.5-5.3	4.5-6.0
	58-62	1.6-5.8	1.2-4.0	4.5-6.0
12A:				
Codorus--------------	0-8	6.2-16	4.7-12	4.5-6.0
	8-17	1.8-11	1.3-8.3	4.5-6.0
	17-33	5.0-11	3.8-8.3	5.1-6.5
	33-62	3.8-11	2.8-8.3	5.1-6.5
13B:				
Delila---------------	0-8	1.2-11	0.9-8.4	4.5-6.5
	8-38	7.5-15	5.6-11	4.5-5.5
	38-65	1.2-8.6	0.9-6.5	4.5-5.5
14C:				
Devotion-------------	0-10	4.0-14	3.0-10	3.5-6.0
	10-30	1.8-7.2	1.3-5.4	3.5-6.0
	30-52	---	---	---
	52-62	---	---	---
14D:				
Devotion-------------	0-10	4.0-14	3.0-10	3.5-6.0
	10-30	1.8-7.2	1.3-5.4	3.5-6.0
	30-52	---	---	---
	52-62	---	---	---

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
15A:				
Dogue	0-8	3.6-7.2	2.7-5.4	3.5-6.5
	8-14	5.5-11	4.1-8.3	3.5-5.5
	14-54	8.5-13	6.4-9.7	3.5-5.5
	54-65	2.5-8.0	1.9-6.0	3.5-5.5
15B:				
Dogue	0-8	3.6-7.2	2.7-5.4	3.5-6.5
	8-14	5.5-11	4.1-8.3	3.5-5.5
	14-54	8.5-13	6.4-9.7	3.5-5.5
	54-65	2.5-8.0	1.9-6.0	3.5-5.5
16B:				
Enon	0-6	2.9-12	2.2-8.6	5.1-6.5
	6-11	7.0-14	5.2-11	5.1-6.5
	11-38	14-22	10-16	5.1-6.5
	38-43	7.0-14	5.2-10	5.1-8.4
	43-62	3.5-13	2.6-9.5	5.1-8.4
Helena	0-9	2.9-12	2.2-8.6	3.5-6.5
	9-11	7.0-13	5.2-10	3.5-6.5
	11-43	11-22	8.4-17	3.5-5.5
	43-64	5.2-13	3.9-10	3.5-5.5
16C:				
Enon	0-6	2.9-12	2.2-8.6	5.1-6.5
	6-11	7.0-14	5.2-11	5.1-6.5
	11-38	14-22	10-16	5.1-6.5
	38-43	7.0-14	5.2-10	5.1-8.4
	43-62	3.5-13	2.6-9.5	5.1-8.4
Helena	0-9	2.9-12	2.2-8.6	3.5-6.5
	9-11	7.0-13	5.2-10	3.5-6.5
	11-43	11-22	8.4-17	3.5-5.5
	43-64	5.2-13	3.9-10	3.5-5.5
16D:				
Enon	0-6	2.9-12	2.2-8.6	5.1-6.5
	6-11	7.0-14	5.2-11	5.1-6.5
	11-38	14-22	10-16	5.1-6.5
	38-43	7.0-14	5.2-10	5.1-8.4
	43-62	3.5-13	2.6-9.5	5.1-8.4
Helena	0-9	2.9-12	2.2-8.6	3.5-6.5
	9-11	7.0-13	5.2-10	3.5-6.5
	11-43	11-22	8.4-17	3.5-5.5
	43-64	5.2-13	3.9-10	3.5-5.5
17B:				
Enon	0-6	2.9-12	2.2-8.6	5.1-6.5
	6-11	7.0-14	5.2-11	5.1-6.5
	11-38	14-22	10-16	5.1-6.5
	38-43	7.0-14	5.2-10	5.1-8.4
	43-62	3.5-13	2.6-9.5	5.1-8.4
Helena	0-9	2.9-12	2.2-8.6	3.5-6.5
	9-11	7.0-13	5.2-10	3.5-6.5
	11-43	11-22	8.4-17	3.5-5.5
	43-64	5.2-13	3.9-10	3.5-5.5

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
17C:				
Enon-----------------	0-6	2.9-12	2.2-8.6	5.1-6.5
	6-11	7.0-14	5.2-11	5.1-6.5
	11-38	14-22	10-16	5.1-6.5
	38-43	7.0-14	5.2-10	5.1-8.4
	43-62	3.5-13	2.6-9.5	5.1-8.4
Helena---------------	0-9	2.9-12	2.2-8.6	3.5-6.5
	9-11	7.0-13	5.2-10	3.5-6.5
	11-43	11-22	8.4-17	3.5-5.5
	43-64	5.2-13	3.9-10	3.5-5.5
18D:				
Enon-----------------	0-6	2.9-12	2.2-8.6	5.1-6.5
	6-11	7.0-14	5.2-11	5.1-6.5
	11-38	14-22	10-16	5.1-6.5
	38-43	7.0-14	5.2-10	5.1-8.4
	43-62	3.5-13	2.6-9.5	5.1-8.4
Poindexter-----------	0-7	2.9-11	2.2-8.1	4.5-7.3
	7-28	7.0-13	5.2-10	4.5-7.3
	28-39	3.5-13	2.6-10	4.5-7.3
	39-62	---	---	---
19D:				
Fairview-------------	0-1	1.9-6.5	1.4-4.9	3.5-6.5
	1-6	0.8-3.1	0.6-2.3	3.5-6.5
	6-23	3.5-6.0	2.6-4.5	3.5-6.0
	23-62	1.0-4.1	0.8-3.0	3.5-6.0
Devotion-------------	0-10	4.0-14	3.0-10	3.5-6.0
	10-30	1.8-7.2	1.3-5.4	3.5-6.0
	30-52	---	---	---
	52-62	---	---	---
19E:				
Fairview-------------	0-1	1.9-6.5	1.4-4.9	3.5-6.5
	1-6	0.8-3.1	0.6-2.3	3.5-6.5
	6-23	3.5-6.0	2.6-4.5	3.5-6.0
	23-62	1.0-4.1	0.8-3.0	3.5-6.0
Devotion-------------	0-10	4.0-14	3.0-10	3.5-6.0
	10-30	1.8-7.2	1.3-5.4	3.5-6.0
	30-52	---	---	---
	52-62	---	---	---
20B:				
Halifax--------------	0-13	2.9-12	2.2-8.6	3.5-6.5
	13-58	10-22	7.9-17	3.5-5.5
	58-65	3.1-13	2.3-9.5	3.5-5.5
20C:				
Halifax--------------	0-13	2.9-12	2.2-8.6	3.5-6.5
	13-58	10-22	7.9-17	3.5-5.5
	58-65	3.1-13	2.3-9.5	3.5-5.5
21B:				
Helena---------------	0-9	2.9-12	2.2-8.6	3.5-6.5
	9-11	7.0-13	5.2-10	3.5-6.5
	11-43	11-22	8.4-17	3.5-5.5
	43-64	5.2-13	3.9-10	3.5-5.5

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
21C:				
Helena----------------	0-9	2.9-12	2.2-8.6	3.5-6.5
	9-11	7.0-13	5.2-10	3.5-6.5
	11-43	11-22	8.4-17	3.5-5.5
	43-64	5.2-13	3.9-10	3.5-5.5
22B:				
Jackland-------------	0-8	8.6-18	6.5-14	4.5-6.0
	8-30	18-31	13-23	4.5-7.3
	30-65	7.5-26	5.6-20	4.5-7.3
Mirerock-------------	0-1	7.2-19	5.4-14	4.5-7.8
	1-5	5.0-15	3.8-11	4.5-7.8
	5-30	18-30	13-23	4.5-7.8
	30-60	---	---	---
23B:				
Mattaponi------------	0-14	2.4-9.0	1.8-6.8	4.5-7.0
	14-36	8.8-16	6.6-12	4.5-6.0
	36-65	8.0-16	6.0-12	4.5-5.5
Appling--------------	0-10	1.6-6.5	1.2-4.9	4.5-6.5
	10-57	3.5-7.1	2.6-5.3	4.5-6.5
	57-65	2.0-5.1	1.5-3.8	4.5-5.5
24B:				
Mayodan--------------	0-5	2.9-12	2.2-8.6	4.5-6.0
	5-10	2.0-8.1	1.5-6.1	4.5-6.0
	10-52	12-22	8.9-16	4.5-5.5
	52-62	3.5-13	2.6-9.5	4.5-5.5
Exway----------------	0-4	6.1-14	4.6-11	4.5-7.3
	4-19	8.8-19	6.6-14	4.5-6.0
	19-24	6.8-16	5.1-12	4.5-6.0
	24-41	---	---	---
24C:				
Mayodan--------------	0-5	2.9-12	2.2-8.6	4.5-6.0
	5-10	2.0-8.1	1.5-6.1	4.5-6.0
	10-52	12-22	8.9-16	4.5-5.5
	52-62	3.5-13	2.6-9.5	4.5-5.5
Exway----------------	0-4	6.1-14	4.6-11	4.5-7.3
	4-19	8.8-19	6.6-14	4.5-6.0
	19-24	6.8-16	5.1-12	4.5-6.0
	24-41	---	---	---
25B:				
Mecklenburg----------	0-4	3.9-13	2.9-9.9	5.1-6.5
	4-39	14-22	10-17	5.6-7.3
	39-65	5.2-13	3.9-9.5	5.6-7.3
25C:				
Mecklenburg----------	0-4	3.9-13	2.9-9.9	5.1-6.5
	4-39	14-22	10-17	5.6-7.3
	39-65	5.2-13	3.9-9.5	5.6-7.3

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
26B:				
Nathalie-------------	0-9	1.6-6.5	1.2-4.9	4.5-6.5
	9-12	2.0-5.1	1.5-3.8	4.5-6.5
	12-52	3.5-6.5	2.6-4.8	4.5-5.5
	52-65	0.8-4.0	0.6-3.0	4.5-5.5
27C:				
Nathalie-------------	0-9	1.6-6.5	1.2-4.9	4.5-6.5
	9-12	2.0-5.1	1.5-3.8	4.5-6.5
	12-52	3.5-6.5	2.6-4.8	4.5-5.5
	52-65	0.8-4.0	0.6-3.0	4.5-5.5
Halifax--------------	0-13	2.9-12	2.2-8.6	3.5-6.5
	13-58	10-22	7.9-17	3.5-5.5
	58-65	3.1-13	2.3-9.5	3.5-5.5
28B:				
Oak Level------------	0-6	3.9-17	2.9-13	5.1-6.5
	6-42	12-20	8.9-15	5.1-6.5
	42-50	7.0-15	5.2-11	5.6-7.3
	50-65	3.5-13	2.6-9.6	5.6-7.3
Diana Mills----------	0-5	3.6-11	2.7-8.1	3.5-6.5
	5-10	5.0-12	3.8-9.2	3.5-6.5
	10-42	8.8-16	6.6-12	3.5-6.5
	42-52	---	---	---
29C:				
Oak Level------------	0-6	3.9-17	2.9-13	5.1-6.5
	6-42	12-20	8.9-15	5.1-6.5
	42-50	7.0-15	5.2-11	5.6-7.3
	50-65	3.5-13	2.6-9.6	5.6-7.3
Siloam---------------	0-8	6.5-27	4.8-20	5.1-7.3
	8-15	7.2-18	5.4-14	5.6-7.8
	15-26	---	---	---
	26-36	---	---	---
29D:				
Oak Level------------	0-6	3.9-17	2.9-13	5.1-6.5
	6-42	12-20	8.9-15	5.1-6.5
	42-50	7.0-15	5.2-11	5.6-7.3
	50-65	3.5-13	2.6-9.6	5.6-7.3
Siloam---------------	0-8	6.5-27	4.8-20	5.1-7.3
	8-15	7.2-18	5.4-14	5.6-7.8
	15-26	---	---	---
	26-36	---	---	---
30D:				
Pacolet--------------	0-4	2.6-5.8	2.6-4.3	4.5-6.5
	4-17	3.5-7.1	2.6-5.3	4.5-6.0
	17-26	1.5-3.5	1.1-2.6	4.5-6.0
	26-61	1.0-3.2	0.8-2.4	4.5-6.0
Wateree--------------	0-6	2.4-6.8	1.8-5.1	4.5-6.0
	6-19	1.2-5.6	0.9-4.2	4.5-6.0
	19-39	0.5-4.9	0.4-3.7	3.5-6.0
	39-59	---	---	---
	59-69	---	---	---

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
30E:				
Pacolet	0-4	2.6-5.8	2.6-4.3	4.5-6.5
	4-17	3.5-7.1	2.6-5.3	4.5-6.0
	17-26	1.5-3.5	1.1-2.6	4.5-6.0
	26-61	1.0-3.2	0.8-2.4	4.5-6.0
Wateree	0-6	2.4-6.8	1.8-5.1	4.5-6.0
	6-19	1.2-5.6	0.9-4.2	4.5-6.0
	19-39	0.5-4.9	0.4-3.7	3.5-6.0
	39-59	---	---	---
	59-69	---	---	---
31B:				
Pinoka	0-10	2.4-8.2	1.8-6.2	3.5-5.5
	10-18	1.2-5.5	0.9-4.1	3.5-5.5
	18-27	1.2-9.2	0.9-6.9	3.5-5.5
	27-80	---	---	---
Carbonton	0-3	3.9-12	2.9-8.6	3.5-6.5
	3-5	3.5-9.2	2.6-6.9	3.5-5.5
	5-28	12-22	9.2-16	3.5-5.5
	28-56	---	---	---
31C:				
Pinoka	0-10	2.4-8.2	1.8-6.2	3.5-5.5
	10-18	1.2-5.5	0.9-4.1	3.5-5.5
	18-27	1.2-9.2	0.9-6.9	3.5-5.5
	27-80	---	---	---
Carbonton	0-3	3.9-12	2.9-8.6	3.5-6.5
	3-5	3.5-9.2	2.6-6.9	3.5-5.5
	5-28	12-22	9.2-16	3.5-5.5
	28-56	---	---	---
31D:				
Pinoka	0-10	2.4-8.2	1.8-6.2	3.5-5.5
	10-18	1.2-5.5	0.9-4.1	3.5-5.5
	18-27	1.2-9.2	0.9-6.9	3.5-5.5
	27-80	---	---	---
Carbonton	0-3	3.9-12	2.9-8.6	3.5-6.5
	3-5	3.5-9.2	2.6-6.9	3.5-5.5
	5-28	12-22	9.2-16	3.5-5.5
	28-56	---	---	---
32B:				
Poindexter	0-7	2.9-11	2.2-8.1	4.5-7.3
	7-28	7.0-13	5.2-10	4.5-7.3
	28-39	3.5-13	2.6-10	4.5-7.3
	39-62	---	---	---
Wedowee	0-9	1.6-8.8	1.2-6.6	3.5-6.5
	9-15	1.4-4.1	1.0-3.1	3.5-5.5
	15-38	3.5-6.1	2.6-4.6	3.5-5.5
	38-61	1.5-4.6	1.1-3.5	3.5-5.5

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
32C:				
Poindexter-----------	0-7	2.9-11	2.2-8.1	4.5-7.3
	7-28	7.0-13	5.2-10	4.5-7.3
	28-39	3.5-13	2.6-10	4.5-7.3
	39-62	---	---	---
Wedowee--------------	0-9	1.6-8.8	1.2-6.6	3.5-6.5
	9-15	1.4-4.1	1.0-3.1	3.5-5.5
	15-38	3.5-6.1	2.6-4.6	3.5-5.5
	38-61	1.5-4.6	1.1-3.5	3.5-5.5
32D:				
Poindexter-----------	0-7	2.9-11	2.2-8.1	4.5-7.3
	7-28	7.0-13	5.2-10	4.5-7.3
	28-39	3.5-13	2.6-10	4.5-7.3
	39-62	---	---	---
Wedowee--------------	0-9	1.6-8.8	1.2-6.6	3.5-6.5
	9-15	1.4-4.1	1.0-3.1	3.5-5.5
	15-38	3.5-6.1	2.6-4.6	3.5-5.5
	38-61	1.5-4.6	1.1-3.5	3.5-5.5
32E:				
Poindexter-----------	0-7	2.9-11	2.2-8.1	4.5-7.3
	7-28	7.0-13	5.2-10	4.5-7.3
	28-39	3.5-13	2.6-10	4.5-7.3
	39-62	---	---	---
Wedowee--------------	0-9	1.6-8.8	1.2-6.6	3.5-6.5
	9-15	1.4-4.1	1.0-3.1	3.5-5.5
	15-38	3.5-6.1	2.6-4.6	3.5-5.5
	38-61	1.5-4.6	1.1-3.5	3.5-5.5
33B:				
Rasalo---------------	0-6	2.9-9.8	2.2-7.3	5.1-6.5
	6-30	7.0-22	5.2-17	5.1-6.5
	30-65	1.8-5.7	1.3-4.3	5.1-6.5
Halifax--------------	0-13	2.9-12	2.2-8.6	3.5-6.5
	13-58	10-22	7.9-17	3.5-5.5
	58-65	3.1-13	2.3-9.5	3.5-5.5
33C:				
Rasalo---------------	0-6	2.9-9.8	2.2-7.3	5.1-6.5
	6-30	7.0-22	5.2-17	5.1-6.5
	30-65	1.8-5.7	1.3-4.3	5.1-6.5
Halifax--------------	0-13	2.9-12	2.2-8.6	3.5-6.5
	13-58	10-22	7.9-17	3.5-5.5
	58-65	3.1-13	2.3-9.5	3.5-5.5
34E:				
Rasalo---------------	0-6	2.9-9.8	2.2-7.3	5.1-6.5
	6-30	7.0-22	5.2-17	5.1-6.5
	30-65	1.8-5.7	1.3-4.3	5.1-6.5
Spriggs--------------	0-9	4.6-14	3.5-10	4.5-6.0
	9-38	6.3-13	4.7-10	4.5-6.0
	38-59	---	---	---

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
35A:				
Riverview	0-10	4.6-14	3.5-10	4.5-6.5
	10-50	7.4-14	5.6-11	4.5-6.0
	50-61	2.5-13	1.9-9.6	4.5-6.0
Tuckahoe	0-10	8.0-17	6.0-13	5.1-7.3
	10-61	7.0-14	5.0-11	5.1-7.3
	61-68	2.5-11	1.8-7.9	5.1-7.3
36A:				
Sindion	0-14	7.5-16	5.6-12	6.1-8.4
	14-61	7.4-19	5.6-14	6.1-8.4
37A:				
Speedwell	0-13	6.5-14	4.8-10	6.1-8.4
	13-65	7.4-19	5.6-14	6.1-8.4
38B:				
Spriggs	0-9	4.6-14	3.5-10	4.5-6.0
	9-38	6.3-13	4.7-10	4.5-6.0
	38-59	---	---	---
Toast	0-12	1.6-8.8	1.2-6.6	3.5-6.5
	12-29	3.4-6.6	2.5-5.0	3.5-5.5
	29-38	1.5-4.0	1.1-3.0	3.5-5.5
	38-62	0.5-3.2	0.4-2.4	3.5-5.5
38C:				
Spriggs	0-9	4.6-14	3.5-10	4.5-6.0
	9-38	6.3-13	4.7-10	4.5-6.0
	38-59	---	---	---
Toast	0-12	1.6-8.8	1.2-6.6	3.5-6.5
	12-29	3.4-6.6	2.5-5.0	3.5-5.5
	29-38	1.5-4.0	1.1-3.0	3.5-5.5
	38-62	0.5-3.2	0.4-2.4	3.5-5.5
38D:				
Spriggs	0-9	4.6-14	3.5-10	4.5-6.0
	9-38	6.3-13	4.7-10	4.5-6.0
	38-59	---	---	---
Toast	0-12	1.6-8.8	1.2-6.6	3.5-6.5
	12-29	3.4-6.6	2.5-5.0	3.5-5.5
	29-38	1.5-4.0	1.1-3.0	3.5-5.5
	38-62	0.5-3.2	0.4-2.4	3.5-5.5
38E:				
Spriggs	0-9	4.6-14	3.5-10	4.5-6.0
	9-38	6.3-13	4.7-10	4.5-6.0
	38-59	---	---	---
Toast	0-12	1.6-8.8	1.2-6.6	3.5-6.5
	12-29	3.4-6.6	2.5-5.0	3.5-5.5
	29-38	1.5-4.0	1.1-3.0	3.5-5.5
	38-62	0.5-3.2	0.4-2.4	3.5-5.5

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
39B:				
State----------------	0-8	2.4-8.2	1.8-6.2	3.5-6.5
	8-14	3.1-7.9	2.3-6.0	3.5-5.5
	14-48	4.5-9.0	3.4-6.7	3.5-6.5
	48-65	0.5-5.5	0.4-4.1	3.5-6.5
40A:				
Toccoa---------------	0-12	2.8-8.2	2.1-6.2	5.1-6.5
	12-62	0.5-5.9	0.4-4.4	5.1-6.5
41B:				
Trenholm-------------	0-9	3.9-11	2.9-8.1	4.5-5.5
	9-12	4.2-13	3.2-10	4.5-6.0
	12-30	10-22	7.9-17	4.5-6.0
	30-36	7.0-16	5.2-12	4.5-6.5
	36-62	4.2-9.9	3.2-7.4	4.5-6.5
42C:				
Wateree--------------	0-6	2.4-6.8	1.8-5.1	4.5-6.0
	6-19	1.2-5.6	0.9-4.2	4.5-6.0
	19-39	0.5-4.9	0.4-3.7	3.5-6.0
	39-59	---	---	---
	59-69	---	---	---
42D:				
Wateree--------------	0-6	2.4-6.8	1.8-5.1	4.5-6.0
	6-19	1.2-5.6	0.9-4.2	4.5-6.0
	19-39	0.5-4.9	0.4-3.7	3.5-6.0
	39-59	---	---	---
	59-69	---	---	---
43A:				
Wehadkee-------------	0-7	6.2-18	4.7-14	5.6-7.3
	7-20	3.5-16	2.6-12	5.6-7.3
	20-61	3.5-18	2.6-14	5.6-7.3
44B:				
Wintergreen----------	0-6	4.8-11	3.6-8.1	3.5-6.5
	6-70	8.8-15	6.6-11	3.5-5.5
45B:				
Worsham--------------	0-7	5.8-16	4.3-12	4.5-6.5
	7-14	7.6-17	5.7-13	4.5-6.5
	14-47	10-20	7.9-15	4.5-6.5
	47-57	7.0-15	5.2-11	4.5-6.5
	57-61	3.5-13	2.6-10	4.5-6.5
W.				
Water				

Table 18.—Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				Ft	Ft		
1B:							
Appling	B	Medium	Jan-Dec	---	---	---	None
2C:							
Appling	B	Medium	Jan-Dec	---	---	---	None
Helena	C	Very high	Jan-April	1.0-2.0	2.0-3.0	---	None
			May-Dec	---	---	---	None
3B:							
Banister	C	Low	Jan-March	1.5-2.5	>6.0	Very brief	Rare
			April-Nov	---	---	Very brief	Rare
			December	1.5-2.5	>6.0	Very brief	Rare
4B:							
Bentley	C	Medium	Jan-March	2.5-3.3	3.3-5.0	---	None
			April-Nov	---	---	---	None
			December	2.5-3.3	3.3-5.0	---	None
Nathalie	B	Medium	Jan-Dec	---	---	---	None
5B:							
Brickhaven	C	High	Jan-April	3.5-5.0	4.5-6.0	---	None
			May-Nov	---	---	---	None
			December	3.5-5.0	4.5-6.0	---	None
Creedmoor	C	High	Jan-March	1.0-2.0	1.5-2.0	---	None
			April-Dec	---	---	---	None
5C:							
Brickhaven	C	Very high	Jan-April	3.5-5.0	4.5-6.0	---	None
			May-Nov	---	---	---	None
			December	3.5-5.0	4.5-6.0	---	None
Creedmoor	C	Very high	Jan-March	1.0-2.0	1.5-2.0	---	None
			April-Dec	---	---	---	None
6B:							
Cecil	B	Medium	Jan-Dec	---	---	---	None
7C:							
Cecil	B	Medium	Jan-Dec	---	---	---	None
8A:							
Chewacla	C	Negligible	Jan-April	0.5-1.5	>6.0	Brief	Frequent
			May-Oct	---	---	---	None
			Nov-Dec	0.5-1.5	>6.0	Brief	Frequent
Monacan	C	Low	Jan-May	0.5-1.0	>6.0	Brief	Frequent
			June-Oct	---	---	---	None
			Nov-Dec	0.5-1.0	>6.0	Brief	Frequent
9B:							
Clifford	B	Medium	Jan-Dec	---	---	---	None

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
				Ft	Ft		
10C:							
Clifford	B	Medium	Jan-Dec	---	---	---	None
11C:							
Clifford	B	Medium	Jan-Dec	---	---	---	None
12A:							
Codorus	C	Low	Jan-April	0.5-1.5	>6.0	Very brief	Frequent
			May-Sept	---	---	Very brief	Occasional
			October	---	---	Very brief	Frequent
			Nov-Dec	0.5-1.5	>6.0	Very brief	Frequent
13B:							
Delila	D	Very high	Jan-May	0.0-1.0	>6.0	---	None
			June	0.5-2.0	>6.0	---	None
			July	1.0-3.0	>6.0	---	None
			August	2.0-5.0	>6.0	---	None
			September	0.5-2.0	>6.0	---	None
			Oct-Dec	0.0-1.0	>6.0	---	None
14C:							
Devotion	B	Medium	Jan-Dec	---	---	---	None
14D:							
Devotion	B	High	Jan-Dec	---	---	---	None
15A:							
Dogue	C	Medium	Jan-March	1.5-3.0	>6.0	Very brief	Rare
			April-May	---	---	Very brief	Rare
			June-Sept	---	---	---	None
			Oct-Dec	---	---	Very brief	Rare
15B:							
Dogue	C	High	Jan-March	1.5-3.0	>6.0	Very brief	Rare
			April-May	---	---	Very brief	Rare
			June-Sept	---	---	---	None
			Oct-Dec	---	---	Very brief	Rare
16B:							
Enon	C	High	Jan-Dec	---	---	---	None
Helena	C	Very high	Jan-April	1.0-2.0	2.0-3.0	---	None
			May-Dec	---	---	---	None
16C:							
Enon	C	High	Jan-Dec	---	---	---	None
Helena	C	Very high	Jan-April	1.0-2.0	2.0-3.0	---	None
			May-Dec	---	---	---	None
16D:							
Enon	C	High	Jan-Dec	---	---	---	None
Helena	C	Very high	Jan-April	1.0-2.0	2.0-3.0	---	None
			May-Dec	---	---	---	None

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
				Ft	Ft		
17B:							
Enon	C	High	Jan-Dec	---	---	---	None
Helena	C	Very high	Jan-April	1.0-2.0	2.0-3.0	---	None
			May-Dec	---	---	---	None
17C:							
Enon	C	High	Jan-Dec	---	---	---	None
				Ft	Ft		
Helena	C	Very high	Jan-April	1.0-2.0	2.0-3.0	---	None
			May-Dec	---	---	---	None
18D:							
Enon	C	High	Jan-Dec	---	---	---	None
Poindexter	B	High	Jan-Dec	---	---	---	None
19D:							
Fairview	B	High	Jan-Dec	---	---	---	None
Devotion	B	High	Jan-Dec	---	---	---	None
19E:							
Fairview	B	High	Jan-Dec	---	---	---	None
Devotion	B	Very high	Jan-Dec	---	---	---	None
20B:							
Halifax	C	Very high	Jan-April	1.5-2.5	2.5-4.8	---	None
			May-Nov	---	---	---	None
			December	1.5-2.5	2.5-4.8	---	None
20C:							
Halifax	C	Very high	Jan-April	1.5-2.5	2.5-4.8	---	None
			May-Nov	---	---	---	None
			December	1.5-2.5	2.5-4.8	---	None
21B:							
Helena	C	Very high	Jan-April	1.0-2.0	2.0-3.0	---	None
			May-Dec	---	---	---	None
21C:							
Helena	C	Very high	Jan-April	1.0-2.0	2.0-3.0	---	None
			May-Dec	---	---	---	None
22B:							
Jackland	D	Very high	Jan-April	1.0-2.0	2.0-3.0	---	None
			May-Nov	---	---	---	None
			December	1.0-2.0	2.0-3.0	---	None
Mirerock	D	High	Jan-Dec	---	---	---	None
23B:							
Mattaponi	C	High	Jan-March	3.0-5.0	>6.0	---	None
			April-Nov	---	---	---	None
			December	3.0-5.0	>6.0	---	None
Appling	B	Medium	Jan-Dec	---	---	---	None

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
				Ft	Ft		
24B:							
Mayodan	B	Medium	Jan-Dec	---	---	---	None
Exway	B	Medium	Jan-Dec	---	---	---	None
24C:							
Mayodan	B	Medium	Jan-Dec	---	---	---	None
Exway	B	Medium	Jan-Dec	---	---	---	None
25B:							
Mecklenburg	C	Very high	Jan-Dec	---	---	---	None
25C:							
Mecklenburg	C	Very high	Jan-Dec	---	---	---	None
26B:							
Nathalie	B	Medium	Jan-Dec	---	---	---	None
27C:							
Nathalie	B	Medium	Jan-Dec	---	---	---	None
Halifax	C	Very high	Jan-April	1.5-2.5	2.5-4.8	---	None
			May-Nov	---	---	---	None
			December	1.5-2.5	2.5-4.8	---	None
28B:							
Oak Level	C	Medium	Jan-Dec	---	---	---	None
Diana Mills	C	Very high	Jan-Dec	---	---	---	None
29C:							
Oak Level	C	High	Jan-Dec	---	---	---	None
Siloam	D	Very high	Jan-Dec	---	---	---	None
29D:							
Oak Level	C	Very high	Jan-Dec	---	---	---	None
Siloam	D	Very high	Jan-Dec	---	---	---	None
30D:							
Pacolet	B	High	Jan-Dec	---	---	---	None
Wateree	B	Medium	Jan-Dec	---	---	---	None
30E:							
Pacolet	B	High	Jan-Dec	---	---	---	None
Wateree	B	Medium	Jan-Dec	---	---	---	None
31B:							
Pinoka	B	Very low	Jan-Dec	---	---	---	None
Carbonton	C	High	Jan-May	1.0-2.0	2.0-3.3	---	None
			June-Oct	---	---	---	None
			Nov-Dec	1.0-2.0	2.0-3.3	---	None

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
				Ft	Ft		
31C:							
Pinoka	B	Low	Jan-Dec	---	---	---	None
Carbonton	C	Very high	Jan-May	1.0-2.0	2.0-3.3	---	None
			June-Oct	---	---	---	None
			Nov-Dec	1.0-2.0	2.0-3.3	---	None
31D:							
Pinoka	B	Medium	Jan-Dec	---	---	---	None
Carbonton	C	Very high	Jan-May	1.0-2.0	2.0-3.3	---	None
			June-Oct	---	---	---	None
			Nov-Dec	1.0-2.0	2.0-3.3	---	None
32B:							
Poindexter	B	High	Jan-Dec	---	---	---	None
Wedowee	B	Medium	Jan-Dec	---	---	---	None
32C:							
Poindexter	B	High	Jan-Dec	---	---	---	None
Wedowee	B	Medium	Jan-Dec	---	---	---	None
32D:							
Poindexter	B	High	Jan-Dec	---	---	---	None
Wedowee	B	Medium	Jan-Dec	---	---	---	None
32E:							
Poindexter	B	High	Jan-Dec	---	---	---	None
Wedowee	B	Medium	Jan-Dec	---	---	---	None
33B:							
Rasalo	C	Medium	Jan-Dec	---	---	---	None
Halifax	C	Very high	Jan-April	1.5-2.5	2.5-4.8	---	None
			May-Nov	---	---	---	None
			December	1.5-2.5	2.5-4.8	---	None
33C:							
Rasalo	C	Very high	Jan-Dec	---	---	---	None
Halifax	C	Very high	Jan-April	1.5-2.5	2.5-4.8	---	None
			May-Nov	---	---	---	None
			December	1.5-2.5	2.5-4.8	---	None
34E:							
Rasalo	C	Very high	Jan-Dec	---	---	---	None
Spriggs	C	High	Jan-Dec	---	---	---	None
35A:							
Riverview	B	Negligible	Jan-March	3.0-5.0	>6.0	Brief	Occasional
			April-Nov	---	---	---	None
			December	3.0-5.0	>6.0	Brief	Occasional
Tuckahoe	B	Negligible	Jan-Dec	---	---	---	None

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
				Ft	Ft		
36A:							
Sindion-------------------	B	High	Jan-March	1.5-3.0	>6.0	Brief	Occasional
			April	1.5-3.0	>6.0	---	None
			May-Nov	---	---	---	None
			December	1.5-3.0	>6.0	Brief	Occasional
37A:							
Speedwell-----------------	B	Very low	Jan-May	---	---	Brief	Occasional
			June-Oct	---	---	---	None
			Nov-Dec	---	---	Brief	Occasional
38B:							
Spriggs-------------------	C	Low	Jan-Dec	---	---	---	None
Toast---------------------	B	Low	Jan-Dec	---	---	---	None
38C:							
Spriggs-------------------	C	Medium	Jan-Dec	---	---	---	None
Toast---------------------	B	Medium	Jan-Dec	---	---	---	None
38D:							
Spriggs-------------------	C	High	Jan-Dec	---	---	---	None
Toast---------------------	B	Medium	Jan-Dec	---	---	---	None
38E:							
Spriggs-------------------	C	High	Jan-Dec	---	---	---	None
Toast---------------------	B	High	Jan-Dec	---	---	---	None
39B:							
State---------------------	B	Low	Jan-June	4.0-6.6	>6.0	Very brief	Rare
			July-Nov	---	---	---	None
			December	4.0-6.6	>6.0	Very brief	Rare
40A:							
Toccoa--------------------	B	Negligible	Jan-April	2.5-5.0	>6.0	Brief	Frequent
			May-Nov	---	---	Brief	Occasional
			December	2.5-5.0	>6.0	Brief	Frequent
41B:							
Trenholm------------------	D	Very high	Jan-May	1.0-3.0	2.0-4.0	---	None
			June-Nov	---	---	---	None
			December	1.0-3.0	2.0-4.0	---	None
42C:							
Wateree-------------------	B	Medium	Jan-Dec	---	---	---	None
42D:							
Wateree-------------------	B	Medium	Jan-Dec	---	---	---	None
43A:							
Wehadkee------------------	D	Negligible	Jan-May	0.0-1.0	>6.0	Long	Frequent
			June	---	---	Long	Frequent
			July-Oct	---	---	---	None
			Nov-Dec	0.0-1.0	>6.0	Long	Frequent

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
				Ft	Ft		
44B:							
Wintergreen	B	Medium	Jan-Dec	---	---	---	None
45B:							
Worsham	D	Negligible	Jan-April	0.0-1.0	>6.0	---	None
			May-Oct	---	---	---	None
			Nov-Dec	0.0-1.0	>6.0	---	None
W.							
Water							

Table 19.—Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
1B:						
Appling	---	---	---	None	Moderate	Moderate
2C:						
Appling	---	---	---	None	Moderate	Moderate
Helena	---	---	---	None	High	High
3B:						
Banister	---	---	---	None	High	High
4B:						
Bentley	---	---	---	None	High	High
Nathalie	---	---	---	None	Moderate	Moderate
5B:						
Brickhaven	Paralithic bedrock	40-60	Weakly cemented	None	High	High
Creedmoor	---	---	---	None	High	High
5C:						
Brickhaven	Paralithic bedrock	40-60	Weakly cemented	None	High	High
Creedmoor	---	---	---	None	High	High
6B:						
Cecil	---	---	---	None	High	High
7C:						
Cecil	---	---	---	None	High	High
8A:						
Chewacla	---	---	---	None	High	Moderate
Monacan	---	---	---	None	Moderate	High
9B:						
Clifford	---	---	---	None	Moderate	Moderate
10C:						
Clifford	---	---	---	None	High	High
11C:						
Clifford	---	---	---	None	High	High
12A:						
Codorus	---	---	---	None	High	Moderate
13B:						
Delila	---	---	---	None	High	Moderate

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
14C:						
Devotion-----------	Paralithic bedrock	20-40	Very strongly cemented	None	Low	High
	Lithic bedrock	40-60	Indurated			
14D:						
Devotion-----------	Paralithic bedrock	20-40	Very strongly cemented	None	Low	High
	Lithic bedrock	40-60	Indurated			
15A:						
Dogue--------------	---	---	---	None	High	High
15B:						
Dogue--------------	---	---	---	None	High	High
16B:						
Enon---------------	---	---	---	None	High	Moderate
Helena-------------	---	---	---	None	High	High
16C:						
Enon---------------	---	---	---	None	High	Moderate
Helena-------------	---	---	---	None	High	High
16D:						
Enon---------------	---	---	---	None	High	Moderate
Helena-------------	---	---	---	None	High	High
17B:						
Enon---------------	---	---	---	None	High	Moderate
Helena-------------	---	---	---	None	High	High
17C:						
Enon---------------	---	---	---	None	High	Moderate
Helena-------------	---	---	---	None	High	High
18D:						
Enon---------------	---	---	---	None	High	Moderate
Poindexter---------	Paralithic bedrock	20-40	Strongly cemented	None	Moderate	Moderate
19D:						
Fairview-----------	---	---	---	None	High	High
Devotion-----------	Paralithic bedrock	20-40	Very strongly cemented	None	Low	High
	Lithic bedrock	40-60	Indurated			
19E:						
Fairview-----------	---	---	---	None	High	High
Devotion-----------	Paralithic bedrock	20-40	Very strongly cemented	None	Low	High
	Lithic bedrock	40-60	Indurated			

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In				
20B:						
Halifax	---	---	---	None	High	High
20C:						
Halifax	---	---	---	None	High	High
21B:						
Helena	---	---	---	None	High	High
21C:						
Helena	---	---	---	None	High	High
22B:						
Jackland	---	---	---	None	High	Low
Mirerock	Paralithic bedrock	20-40	Moderately cemented	None	High	Low
23B:						
Mattaponi	---	---	---	None	High	High
Appling	---	---	---	None	Moderate	Moderate
24B:						
Mayodan	---	---	---	None	High	Moderate
Exway	Paralithic bedrock	20-40	Moderately cemented	None	High	Moderate
24C:						
Mayodan	---	---	---	None	High	Moderate
Exway	Paralithic bedrock	20-40	Moderately cemented	None	High	Moderate
25B:						
Mecklenburg	---	---	---	None	High	Moderate
25C:						
Mecklenburg	---	---	---	None	High	Moderate
26B:						
Nathalie	---	---	---	None	Moderate	Moderate
27C:						
Nathalie	---	---	---	None	Moderate	Moderate
Halifax	---	---	---	None	High	High
28B:						
Oak Level	---	---	---	None	High	Moderate
Diana Mills	Paralithic bedrock	40-60	Strongly cemented	None	High	Low
29C:						
Oak Level	---	---	---	None	High	Moderate
Siloam	Paralithic bedrock	10-20	Moderately cemented	None	Moderate	Moderate
	Lithic bedrock	20-40	Indurated			

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
29D:						
Oak Level----------	---	---	---	None	High	Moderate
Siloam-------------	Paralithic bedrock	10-20	Moderately cemented	None	Moderate	Moderate
	Lithic bedrock	20-40	Indurated			
30D:						
Pacolet------------	---	---	---	None	High	High
Wateree------------	Paralithic bedrock	20-40	Moderately cemented	None	Low	High
	Lithic bedrock	40-60	Indurated			
30E:						
Pacolet------------	---	---	---	None	High	High
Wateree------------	Paralithic bedrock	20-40	Moderately cemented	None	Low	High
	Lithic bedrock	40-60	Indurated			
31B:						
Pinoka-------------	Paralithic bedrock	20-40	Strongly cemented	None	Low	High
Carbonton----------	Paralithic bedrock	20-40	Very strongly cemented	None	Low	High
31C:						
Pinoka-------------	Paralithic bedrock	20-40	Strongly cemented	None	Low	High
Carbonton----------	Paralithic bedrock	20-40	Very strongly cemented	None	Low	High
31D:						
Pinoka-------------	Paralithic bedrock	20-40	Strongly cemented	None	Low	High
Carbonton----------	Paralithic bedrock	20-40	Very strongly cemented	None	Low	High
32B:						
Poindexter---------	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	Moderate
Wedowee------------	---	---	---	None	Moderate	High
32C:						
Poindexter---------	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	Moderate
Wedowee------------	---	---	---	None	Moderate	High
32D:						
Poindexter---------	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	Moderate
Wedowee------------	---	---	---	None	Moderate	High

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
32E:						
Poindexter	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	Moderate
Wedowee	---	---	---	None	Moderate	High
33B:						
Rasalo	---	---	---	None	High	Moderate
Halifax	---	---	---	None	High	High
33C:						
Rasalo	---	---	---	None	High	Moderate
Halifax	---	---	---	None	High	High
34E:						
Rasalo	---	---	---	None	High	Moderate
Spriggs	Paralithic bedrock	20-40	Moderately cemented	None	Low	Moderate
35A:						
Riverview	---	---	---	None	Low	Moderate
Tuckahoe	---	---	---	None	Moderate	Moderate
36A:						
Sindion	---	---	---	None	Low	Moderate
37A:						
Speedwell	---	---	---	None	Low	Moderate
38B:						
Spriggs	Paralithic bedrock	20-40	Strongly cemented	None	Low	Moderate
Toast	---	---	---	None	High	High
38C:						
Spriggs	Paralithic bedrock	20-40	Strongly cemented	None	Low	Moderate
Toast	---	---	---	None	High	High
38D:						
Spriggs	Paralithic bedrock	20-40	Strongly cemented	None	Low	Moderate
Toast	---	---	---	None	High	High
38E:						
Spriggs	Paralithic bedrock	20-40	Strongly cemented	None	Low	Moderate
Toast	---	---	---	None	High	High
39B:						
State	---	---	---	None	Moderate	High

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
40A:						
Toccoa-------------	---	---	---	None	Low	Moderate
41B:						
Trenholm-----------	---	---	---	None	High	Moderate
42C:						
Wateree------------	Paralithic bedrock	20-40	Moderately cemented	None	Low	High
	Lithic bedrock	40-60	Indurated			
42D:						
Wateree------------	Paralithic bedrock	20-40	Moderately cemented	None	Low	High
	Lithic bedrock	40-60	Indurated			
43A:						
Wehadkee-----------	---	---	---	None	High	Moderate
44B:						
Wintergreen--------	---	---	---	None	High	Moderate
45B:						
Worsham------------	---	---	---	None	High	Moderate
W.						
Water						

Table 20.—Classification of the Soils

Soil name	Family or higher taxonomic class
Appling	Fine, kaolinitic, thermic Typic Kanhapludults
Banister	Fine, mixed, active, mesic Aquic Hapludalfs
Bentley	Fine, mixed, semiactive, mesic Oxyaquic Hapludults
Brickhaven	Fine, mixed, semiactive, thermic Oxyaquic Hapludalfs
Carbonton	Fine, mixed, semiactive, thermic Oxyaquic Hapludalfs
Cecil	Fine, kaolinitic, thermic Typic Kanhapludults
Chewacla	Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts
Clifford	Fine, kaolinitic, mesic Typic Kanhapludults
Codorus	Fine-loamy, mixed, active, mesic Fluvaquentic Dystrudepts
Creedmoor	Fine, mixed, semiactive, thermic Aquic Hapludults
Delila	Fine, mixed, active, mesic Typic Endoaquults
Devotion	Coarse-loamy, mixed, semiactive, mesic Typic Dystrudepts
Diana Mills	Fine, mixed, subactive, mesic Typic Hapludults
Dogue	Fine, mixed, semiactive, thermic Aquic Hapludults
Enon	Fine, mixed, active, thermic Ultic Hapludalfs
Exway	Fine, mixed, active, thermic Typic Rhodudults
Fairview	Fine, kaolinitic, mesic Typic Kanhapludults
Halifax	Fine, mixed, semiactive, mesic Aquic Hapludults
Helena	Fine, mixed, semiactive, thermic Aquic Hapludults
Jackland	Fine, smectitic, mesic Aquic Hapludalfs
Mattaponi	Fine, mixed, subactive, thermic Oxyaquic Hapludults
Mayodan	Fine, mixed, semiactive, thermic Typic Hapludults
Mecklenburg	Fine, mixed, active, thermic Ultic Hapludalfs
Mirerock	Fine, smectitic, mesic Typic Hapludalfs
Monacan	Fine-loamy, mixed, active, thermic Fluvaquentic Eutrudepts
Nathalie	Fine, kaolinitic, mesic Typic Kanhapludults
Oak Level	Fine, mixed, active, mesic Ultic Hapludalfs
Pacolet	Fine, kaolinitic, thermic Typic Kanhapludults
Pinoka	Fine-loamy, mixed, subactive, thermic Typic Hapludults
Poindexter	Fine-loamy, mixed, active, thermic Typic Hapludalfs
Rasalo	Fine, mixed, superactive, mesic Ultic Hapludalfs
Riverview	Fine-loamy, mixed, active, thermic Fluventic Dystrudepts
Siloam	Loamy, mixed, superactive, mesic, shallow Typic Hapludalfs
Sindion	Fine-loamy, mixed, active, mesic Fluvaquentic Hapludolls
Speedwell	Fine-loamy, mixed, active, mesic Fluventic Hapludolls
Spriggs	Fine-loamy, mixed, active, mesic Ultic Hapludalfs
State	Fine-loamy, mixed, semiactive, thermic Typic Hapludults
Toast	Fine, kaolinitic, mesic Typic Kanhapludults
Toccoa	Coarse-loamy, mixed, active, nonacid, thermic Typic Udifluvents
Trenholm	Fine, mixed, active, thermic Albaquic Hapludalfs
Tuckahoe	Fine-loamy, mixed, active, thermic Dystric Fluventic Eutrudepts
Wateree	Coarse-loamy, mixed, semiactive, thermic Typic Dystrudepts
Wedowee	Fine, kaolinitic, thermic Typic Kanhapludults
Wehadkee	Fine-loamy, mixed, active, nonacid, thermic Fluvaquentic Endoaquepts
Wintergreen	Fine, mixed, subactive, mesic Typic Paleudults
Worsham	Fine, mixed, active, thermic Typic Endoaquults

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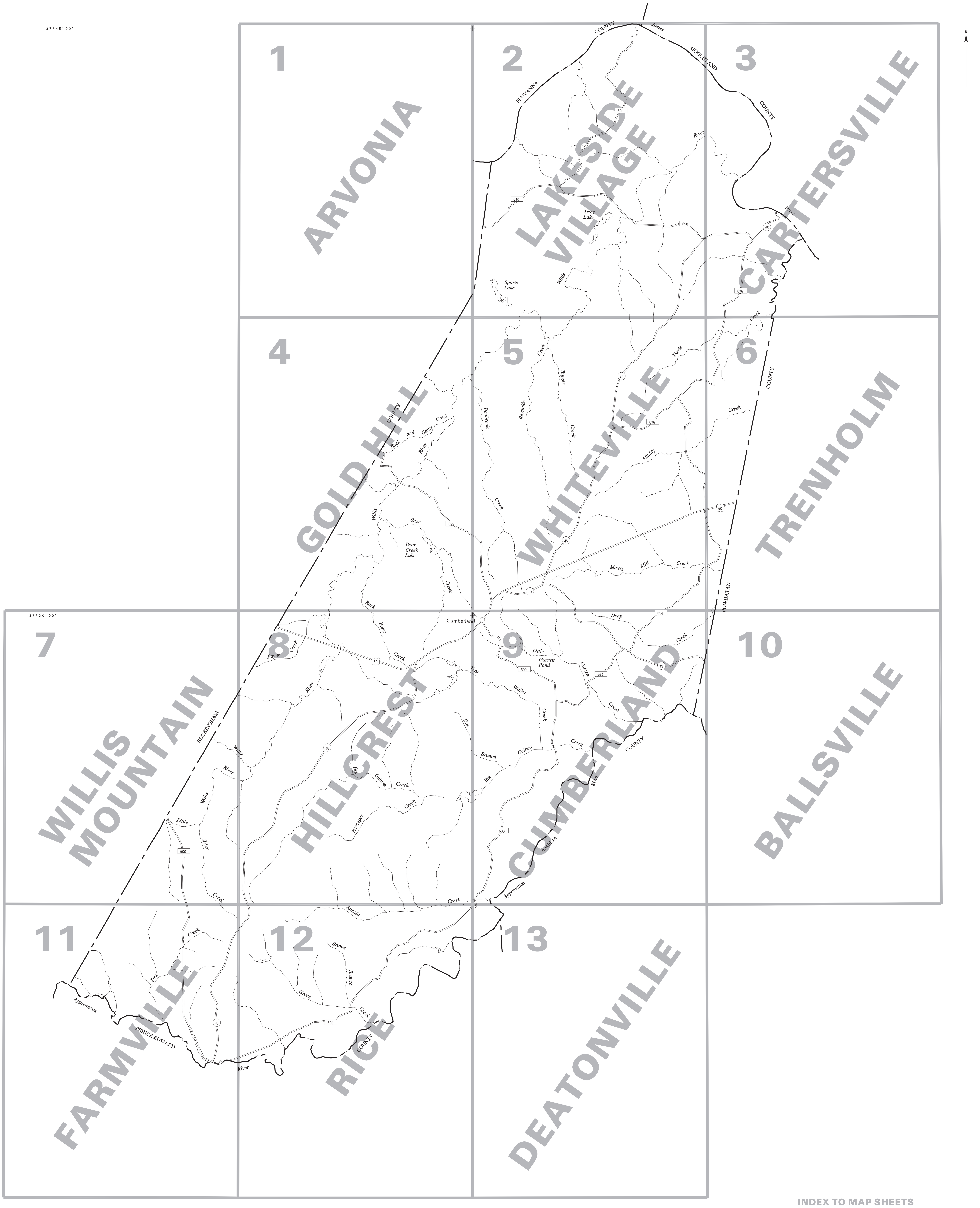


INDEX TO MAP SHEETS
CUMBERLAND COUNTY, VIRGINIA
MILES
KILOMETERS
SCALE = 1:90000

SOIL LEGEND

Map symbols consist of a combination of numbers and letters. The number represents the kind of soil. A capital letter following the number indicates the class of slope. A number without a slope letter indicates nearly level soils or miscellaneous areas. A letter without a soil number indicates a miscellaneous area.

SYMBOL	NAME
1B	Appling sandy loam, 2 to 7 percent slopes
2C	Appling-Helena complex, 7 to 15 percent slopes
3B	Banister fine sandy loam, 2 to 7 percent slopes, rarely flooded
4B	Bentley-Nathalie complex, 2 to 7 percent slopes
5B	Brickhaven-Creedmoor complex, 2 to 7 percent slopes
5C	Brickhaven-Creedmoor complex, 7 to 15 percent slopes
6B	Cecil sandy loam, 2 to 7 percent slopes
7C	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded
8A	Chewacla and Monacan soils, 0 to 2 percent slopes, frequently flooded
9B	Clifford sandy loam, 2 to 7 percent slopes
10C	Clifford sandy loam, 7 to 15 percent slopes, very stony
11C	Clifford clay loam, 7 to 15 percent slopes, severely eroded
12A	Codorus loam, 0 to 2 percent slopes, frequently flooded
13B	Delila fine sandy loam, 0 to 4 percent slopes
14C	Devotion sandy loam, 7 to 15 percent slopes
14D	Devotion sandy loam, 15 to 25 percent slopes
15A	Dogue fine sandy loam, 0 to 2 percent slopes, rarely flooded
15B	Dogue fine sandy loam, 2 to 7 percent slopes, rarely flooded
16B	Enon-Helena complex, 2 to 7 percent slopes
16C	Enon-Helena complex, 7 to 15 percent slopes
16D	Enon-Helena complex, 15 to 25 percent slopes
17B	Enon-Helena complex, 2 to 7 percent slopes, very stony
17C	Enon-Helena complex, 7 to 15 percent slopes, very stony
18D	Enon-Poindexter complex, 15 to 25 percent slopes, very stony
19D	Fairview-Devotion complex, 15 to 25 percent slopes
19E	Fairview-Devotion complex, 25 to 45 percent slopes
20B	Halifax sandy loam, 2 to 7 percent slopes
20C	Halifax sandy loam, 7 to 15 percent slopes
21B	Helena sandy loam, 2 to 7 percent slopes
21C	Helena sandy loam, 7 to 15 percent slopes
22B	Jackland-Mirerock complex, 2 to 7 percent slopes
23B	Mattaponi-Appling complex, 2 to 7 percent slopes
24B	Mayodan-Exway complex, 2 to 7 percent slopes
24C	Mayodan-Exway complex, 7 to 15 percent slopes
25B	Mecklenburg loam, 2 to 7 percent slopes
25C	Mecklenburg loam, 7 to 15 percent slopes
26B	Nathalie sandy loam, 2 to 7 percent slopes
27C	Nathalie-Halifax complex, 7 to 15 percent slopes
28B	Oak Level-Diana Mills complex, 2 to 7 percent slopes
29C	Oak Level-Siloam complex, 7 to 15 percent slopes
29D	Oak Level-Siloam complex, 15 to 25 percent slopes
30D	Pacolet-Wateree complex, 15 to 25 percent slopes
30E	Pacolet-Wateree complex, 25 to 45 percent slopes
31B	Pinoka-Carbonton complex, 2 to 7 percent slopes
31C	Pinoka-Carbonton complex, 7 to 15 percent slopes
31D	Pinoka-Carbonton complex, 15 to 25 percent slope
32B	Poindexter-Wedowee complex, 2 to 7 percent slopes
32C	Poindexter-Wedowee complex, 7 to 15 percent slopes
32D	Poindexter-Wedowee complex, 15 to 25 percent slopes
32E	Poindexter-Wedowee complex, 25 to 60 percent slopes
33B	Rasalo-Halifax complex, 2 to 7 percent slopes
33C	Rasalo-Halifax complex, 7 to 15 percent slopes
34E	Rasalo-Spriggs complex, 15 to 45 percent slopes, very stony
35A	Riverview and Tuckahoe soils, 0 to 2 percent slopes, occasionally flooded
36A	Sindion silt loam, 0 to 2 percent slopes, occasionally flooded
37A	Speedwell loam, 0 to 2 percent slopes, occasionally flooded
38B	Spriggs-Toast complex, 2 to 7 percent slopes
38C	Spriggs-Toast complex, 7 to 15 percent slopes
38D	Spriggs-Toast complex, 15 to 25 percent slopes
38E	Spriggs-Toast complex, 25 to 60 percent slopes
39B	State fine sandy loam, 2 to 7 percent slopes, rarely flooded
40A	Toccoa fine sandy loam, 0 to 2 percent slopes, frequently flooded
41B	Trenholm sandy loam, 2 to 7 percent slopes
42C	Wateree sandy loam, 7 to 15 percent slopes
42D	Wateree sandy loam, 15 to 25 percent slopes
43A	Wehadkee sandy loam, 0 to 2 percent slopes, frequently flooded
44B	Wintergreen loam, 2 to 7 percent slopes
45B	Worsham loam, 0 to 4 percent slopes
W	Water

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- County or parish
- Field sheet matchline & neatline
- Quadrangle matchline (shown in white)

TRANSPORTATION

- Divided roads
- Other roads

ROAD EMBLEM & DESIGNATIONS

- Interstate 173
- Federal 287
- State 52

HYDROGRAPHIC FEATURES

STREAMS

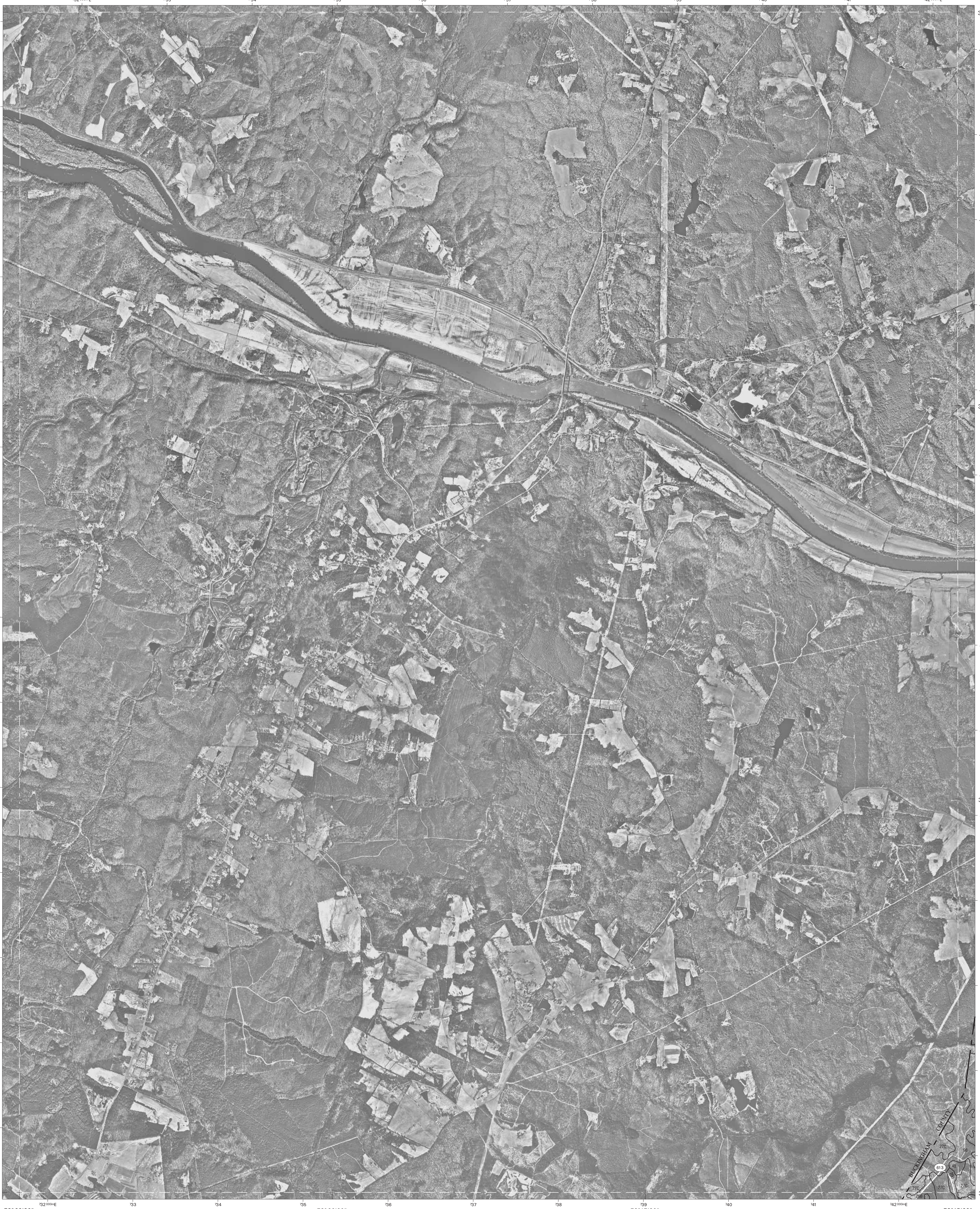
- Unclassified
- Drainage end (Indicates direction of flow)

SPECIAL SYMBOLS FOR SOIL SURVEY AND SSURGO

SOIL DELINEATIONS AND SYMBOLS 1B 3B

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CUMBERLAND COUNTY, VIRGINIA
ARVONIA QUADRANGLE
SHEET NUMBER 1 OF 13



Joins sheet 4, Gold Hill

Joins sheet 5, Whiteville

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1994-1996 aerial photography. Hydrography and culture information were acquired from Natural Resources Conservation Service. Hydrography and cultural layers were edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES: 1 0 1

FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000

KILOMETERS: 1 0 1

2 LAKESIDE VILLAGE
4 GOLD HILL
5 WHITEVILLE

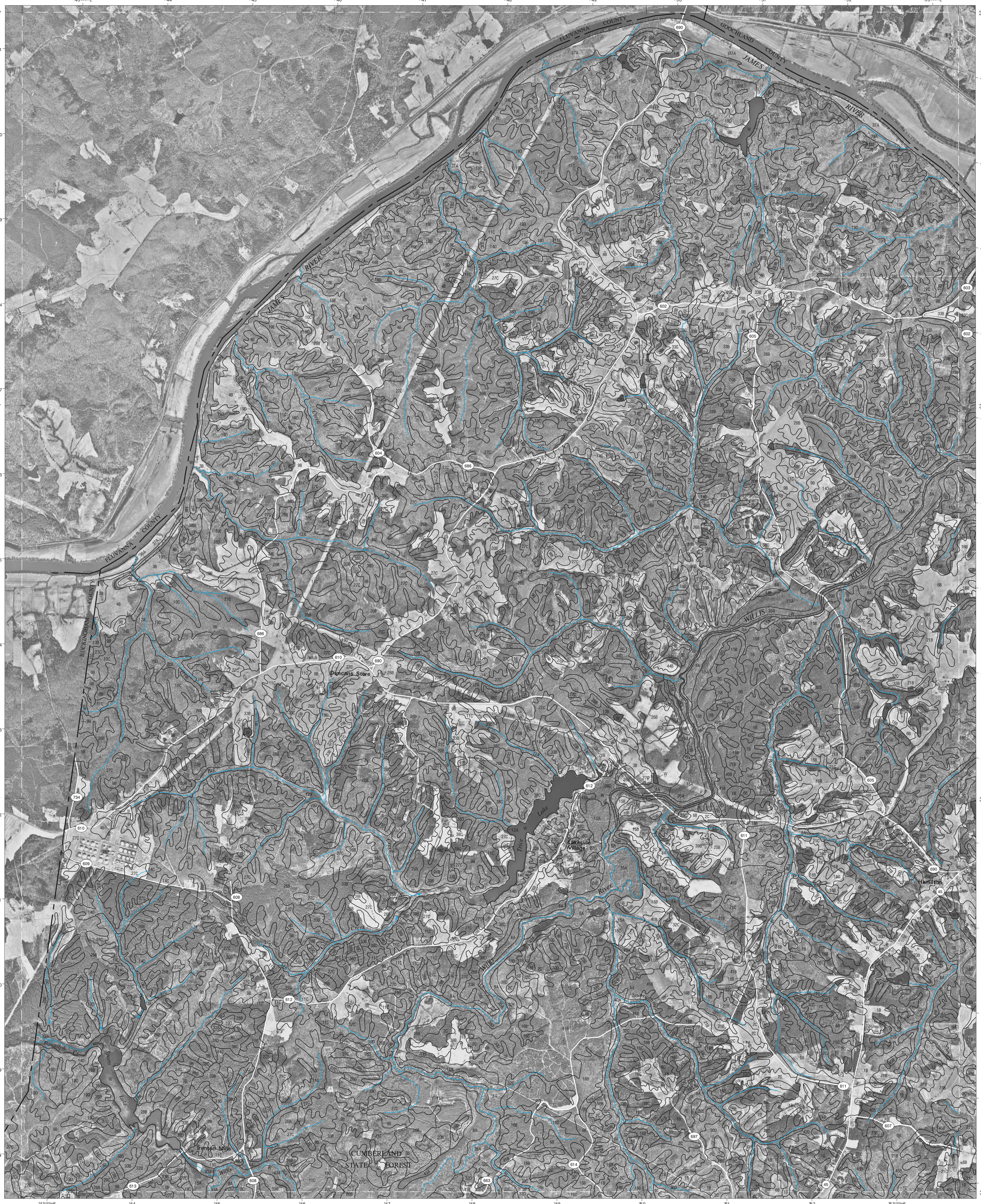
INDEX TO ADJOINING 7.5 MAPS

ARVONIA, VIRGINIA
7.5 MINUTE SERIES
SHEET NUMBER 1 OF 13

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CUMBERLAND COUNTY, VIRGINIA
LAKESIDE VILLAGE QUADRANGLE
SHEET NUMBER 2 OF 13



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

1 ARVONIA
3 CARTERSVILLE
4 GOLD HILL
5 WHITEVILLE
6 TRENHOLM

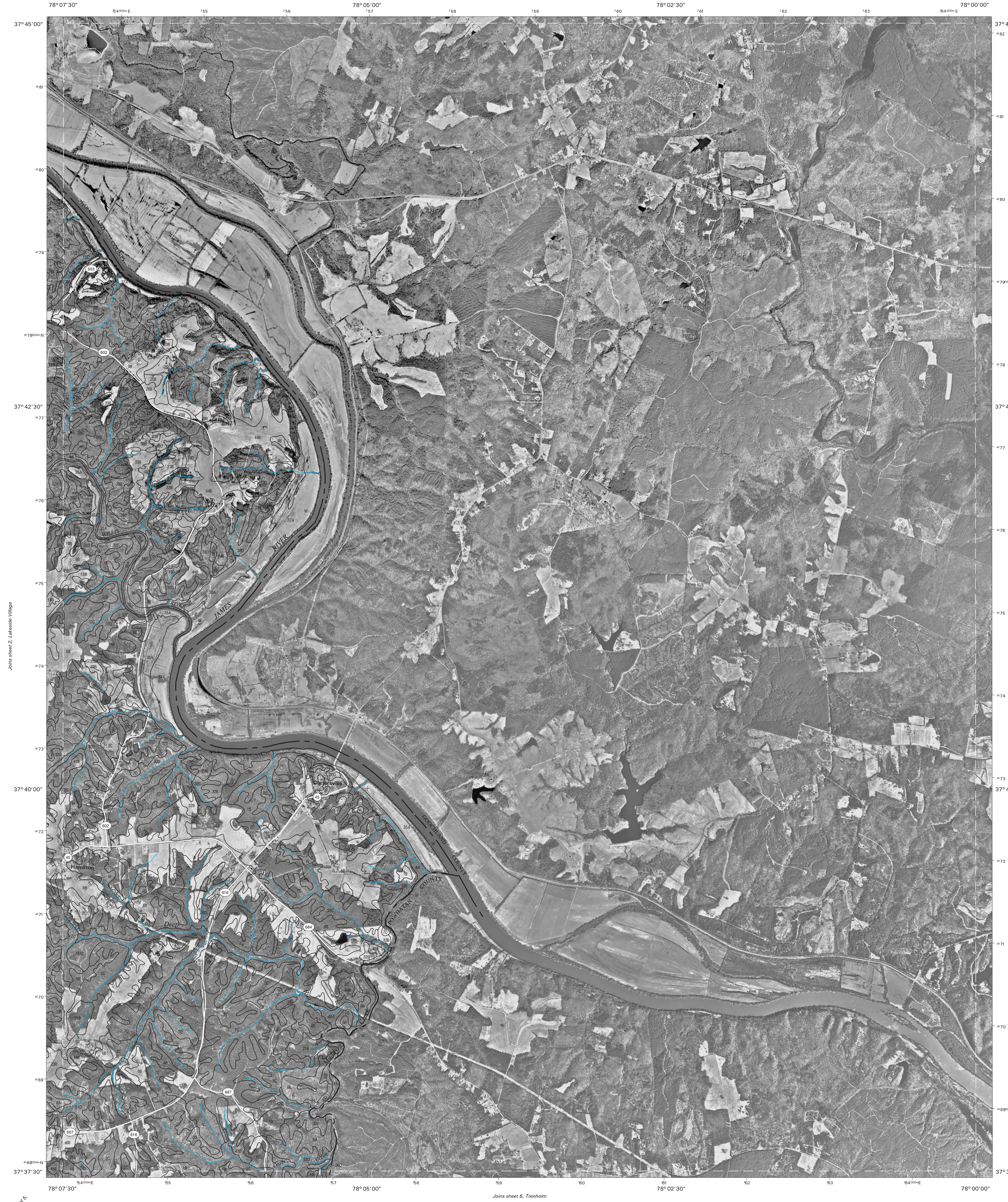
INDEX TO ADJOINING 7.5 MAPS

LAKESIDE VILLAGE, VIRGINIA
7.5 MINUTE SERIES
SHEET NUMBER 2 OF 13

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CUMBERLAND COUNTY, VIRGINIA
CARTERSVILLE QUADRANGLE
SHEET NUMBER 3 OF 13



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

2		
5	6	

2 LAKESIDE VILLAGE
5 WHITEVILLE
6 TRENHOLM

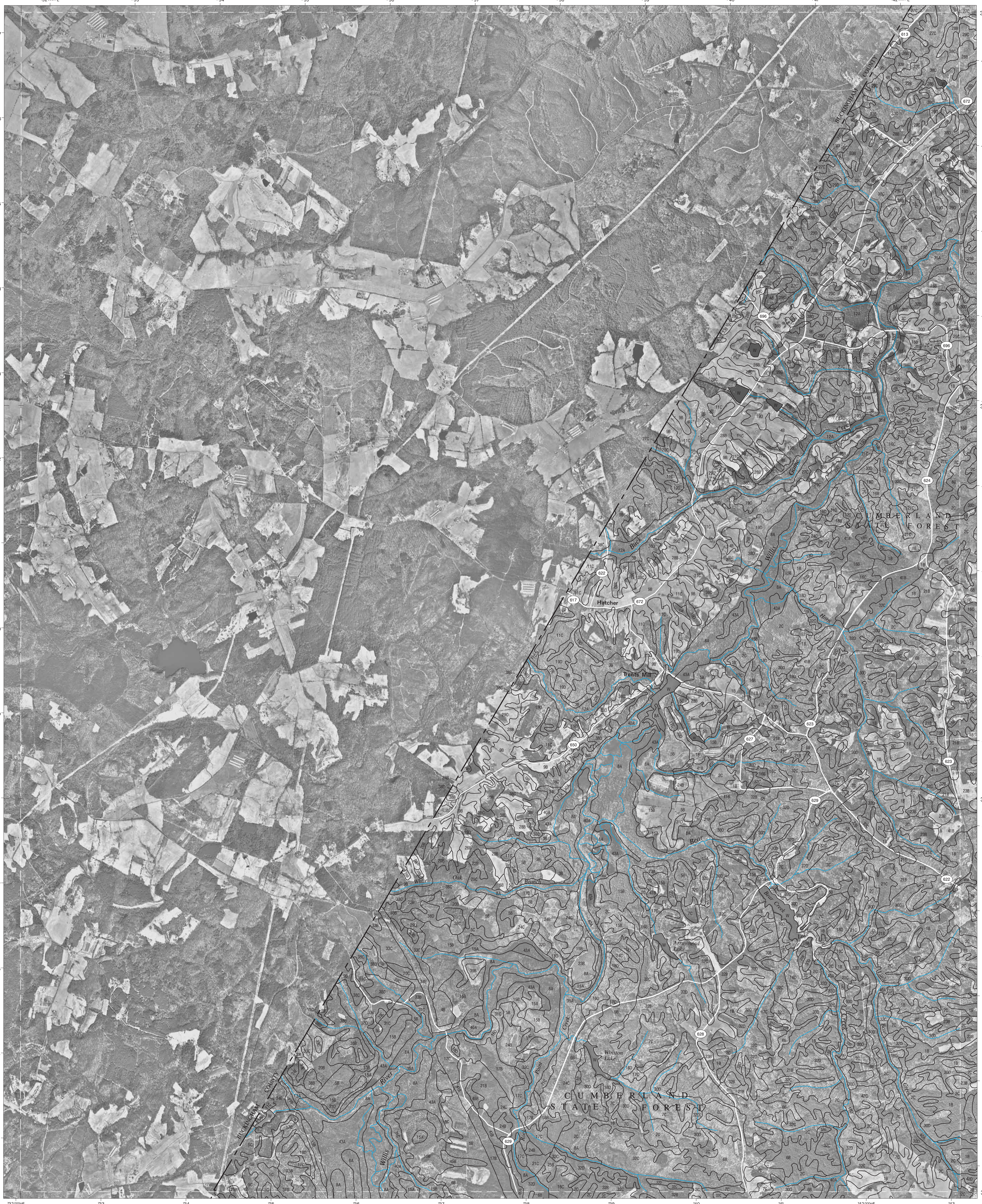
INDEX TO ADJOINING 7.5 MAPS

CARTERSVILLE, VIRGINIA
7.5 MINUTE SERIES
SHEET NUMBER 3 OF 13

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CUMBERLAND COUNTY, VIRGINIA
GOLD HILL QUADRANGLE
SHEET NUMBER 4 OF 13



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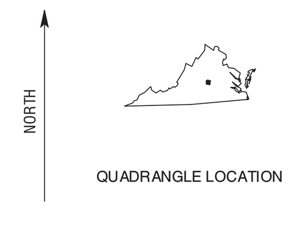
North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 17.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

SCALE 1:24000

MILES: 1 0 1

FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000

KILOMETERS: 1 0 1

1 ARVONIA
2 LAKESIDE VILLAGE
5 WHITEVILLE
7 WILLIS MOUNTAIN
8 HILLCREST
9 CUMBERLAND

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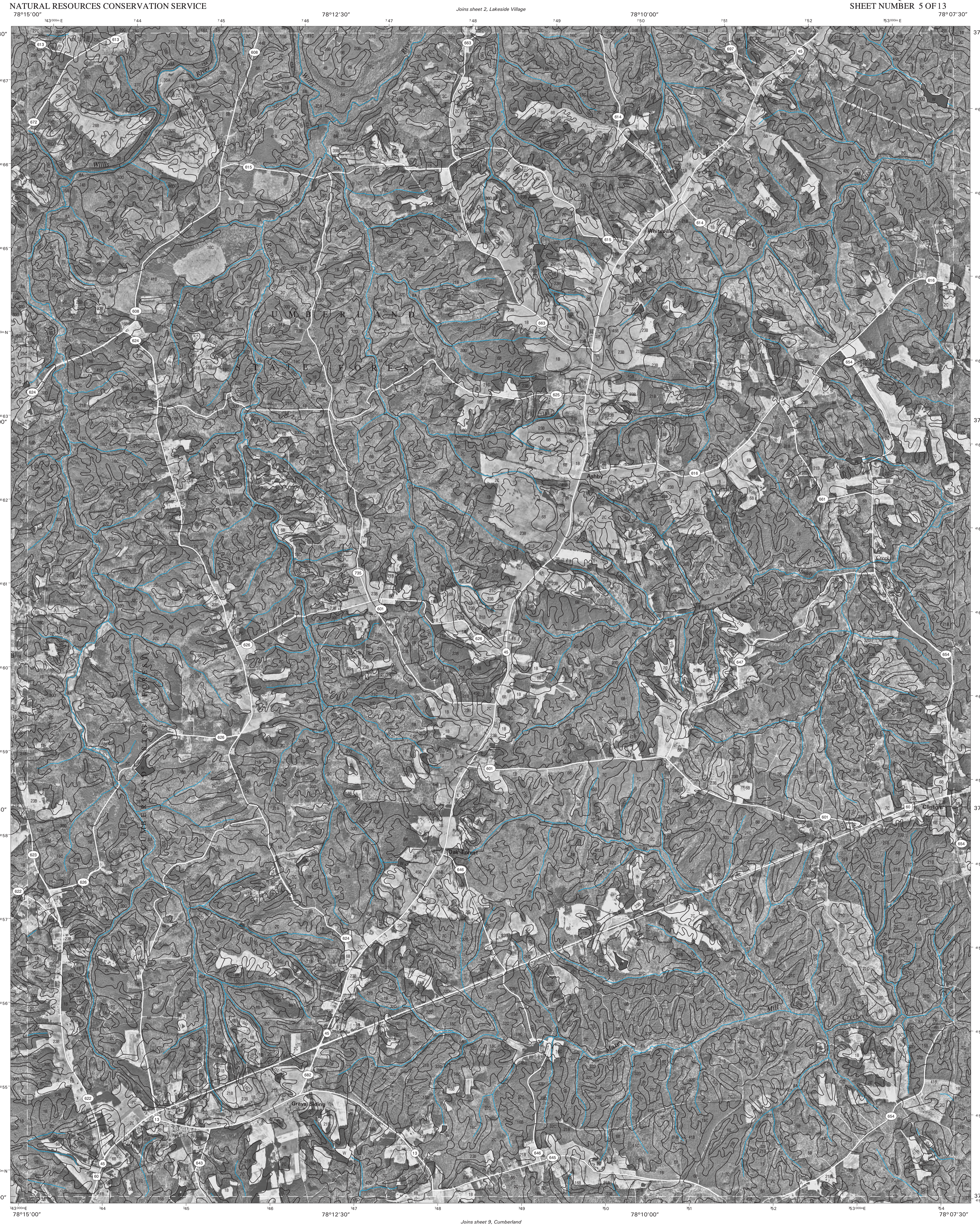
GOLD HILL, VIRGINIA

7.5 MINUTE SERIES
SHEET NUMBER 4 OF 13

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CUMBERLAND COUNTY, VIRGINIA
WHITEVILLE QUADRANGLE
SHEET NUMBER 5 OF 13



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

1	2	3
4		6
8	9	10

1 ARVONIA
2 LAKESIDE VILLAGE
3 CARTERSVILLE
4 GOLD HILL
6 TRENHOLM
8 HILLCREST
9 CUMBERLAND
10 BALLSVILLE

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WHITEVILLE, VIRGINIA

7.5 MINUTE SERIES
SHEET NUMBER 5 OF 13

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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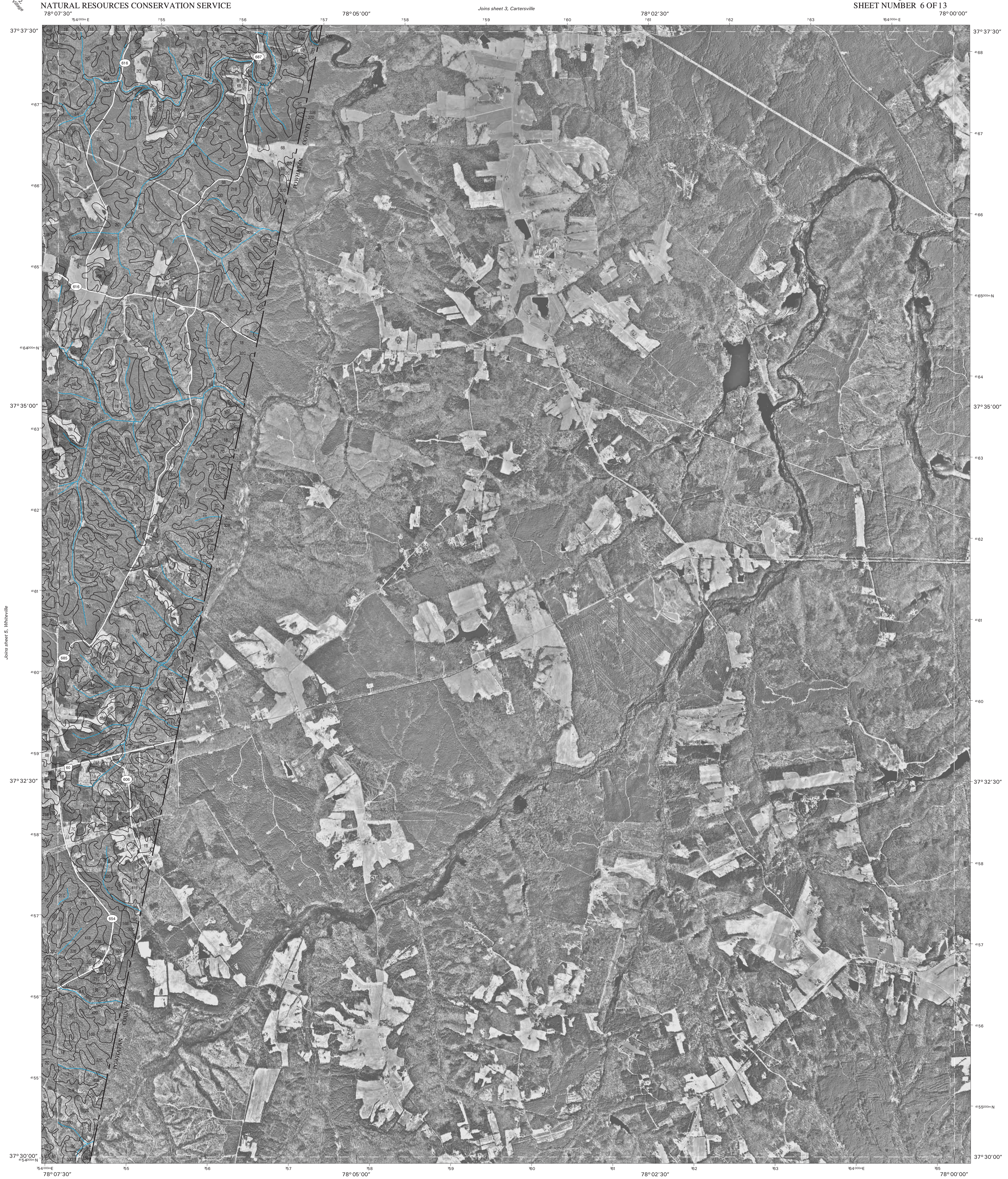

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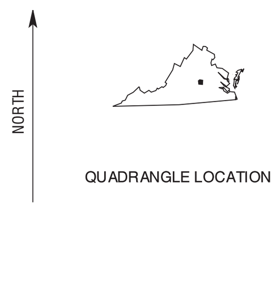
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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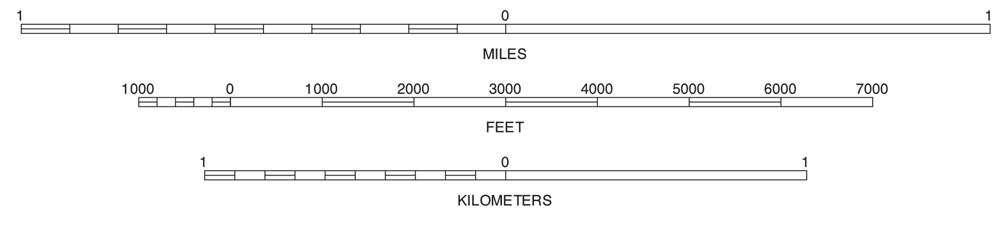

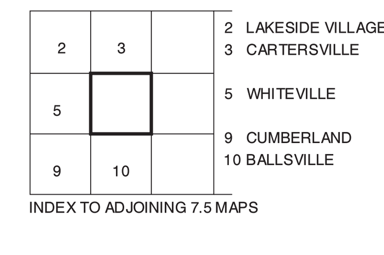

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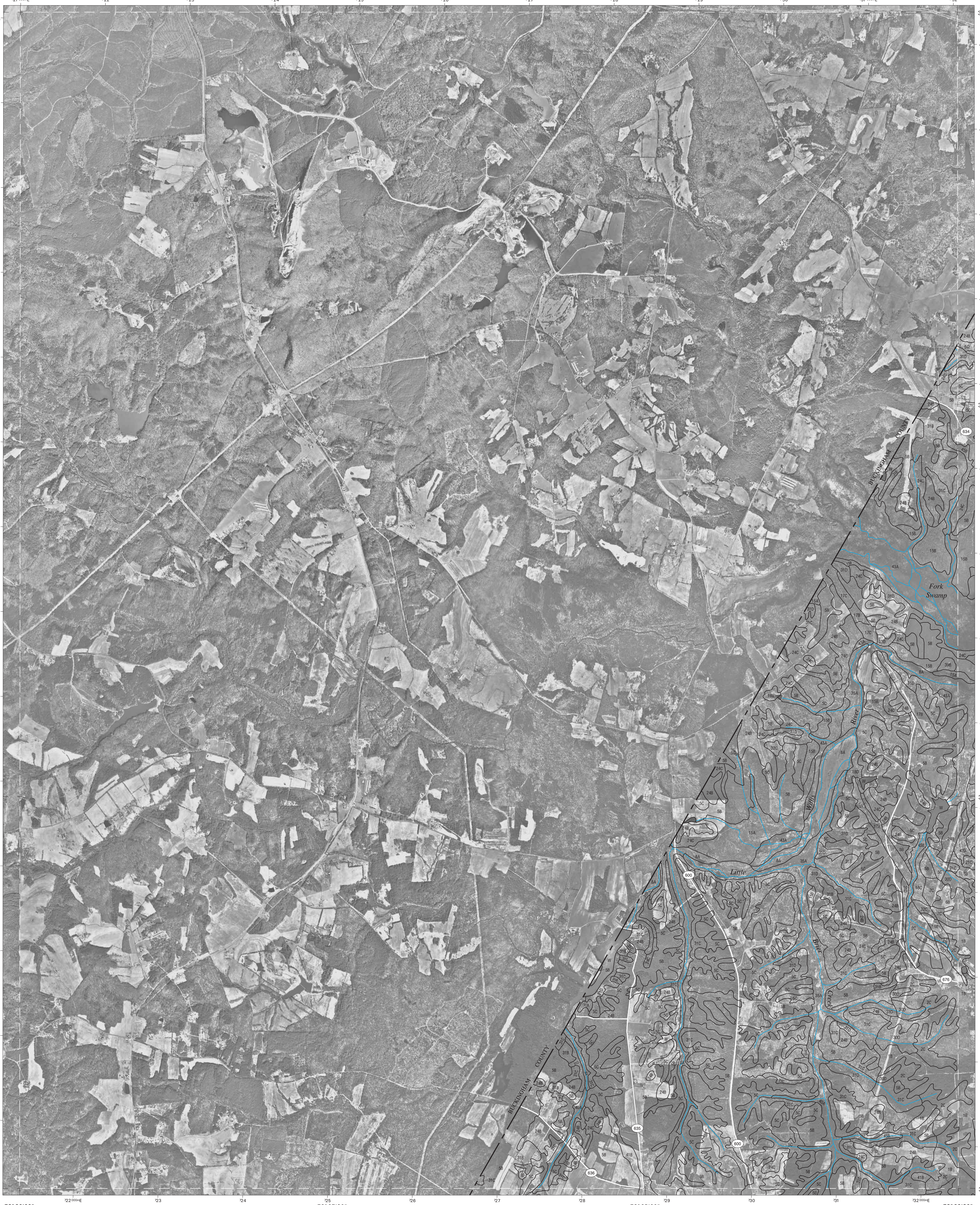
TRENHOLM, VIRGINIA

7.5 MINUTE SERIES
SHEET NUMBER 6 OF 13

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 4, Gold Hill



Joins sheet 8, Hillcrest

Joins sheet 11, Farmville

Joins sheet 12, Rice

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

		4
		8
	11	12

4 GOLD HILL
8 HILLCREST
11 FARMVILLE
12 RICE

INDEX TO ADJOINING 7.5 MAPS

WILLIS MOUNTAIN, VIRGINIA

7.5 MINUTE SERIES
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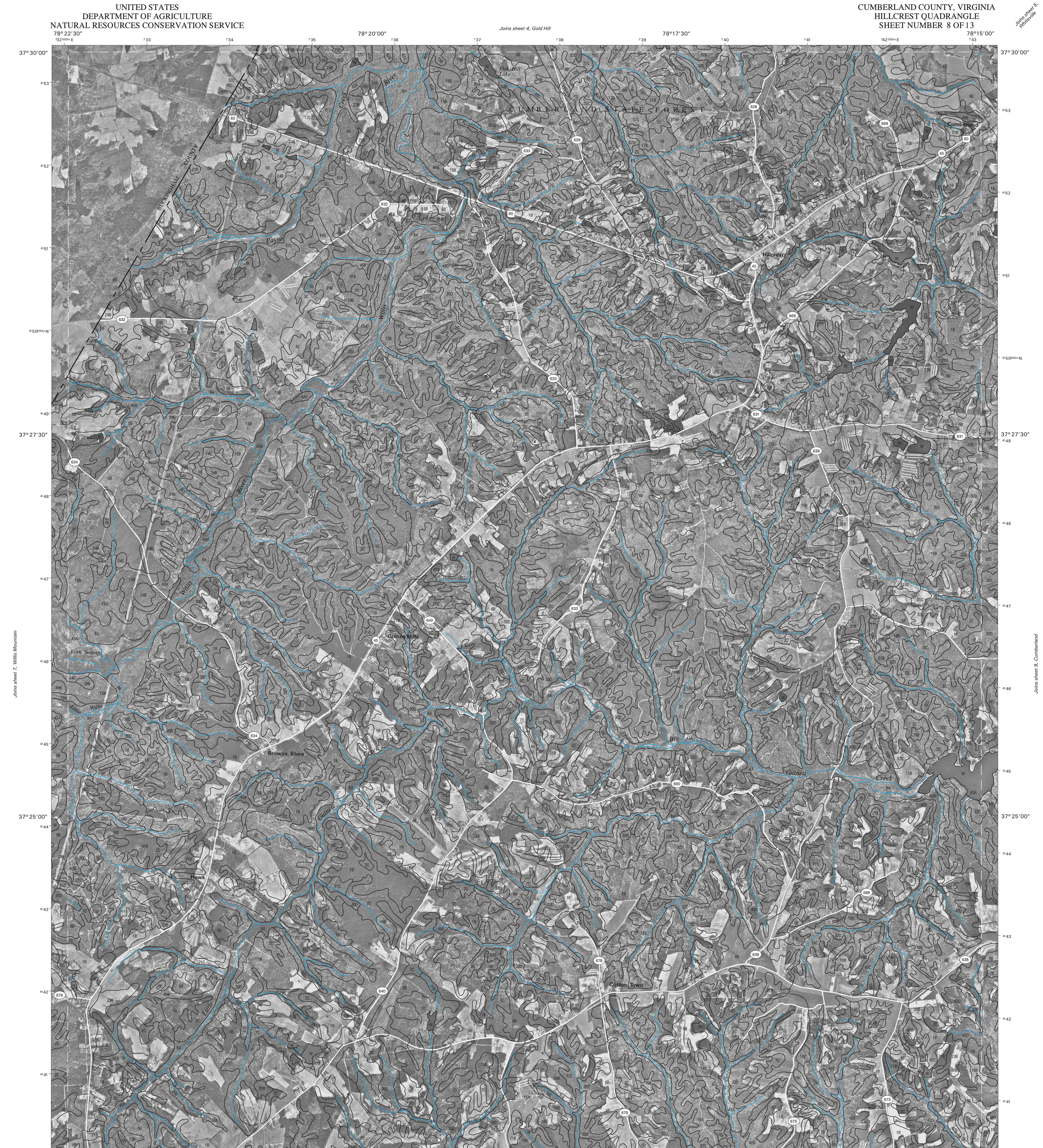
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CUMBERLAND COUNTY, VIRGINIA
HILLCREST QUADRANGLE
SHEET NUMBER 8 OF 13



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

	4	5
7		9
11	12	13

4 GOLD HILL
5 WHITEVILLE
7 WILLIS MOUNTAIN
9 CUMBERLAND
11 FARMVILLE
12 RICE
13 DEATONVILLE

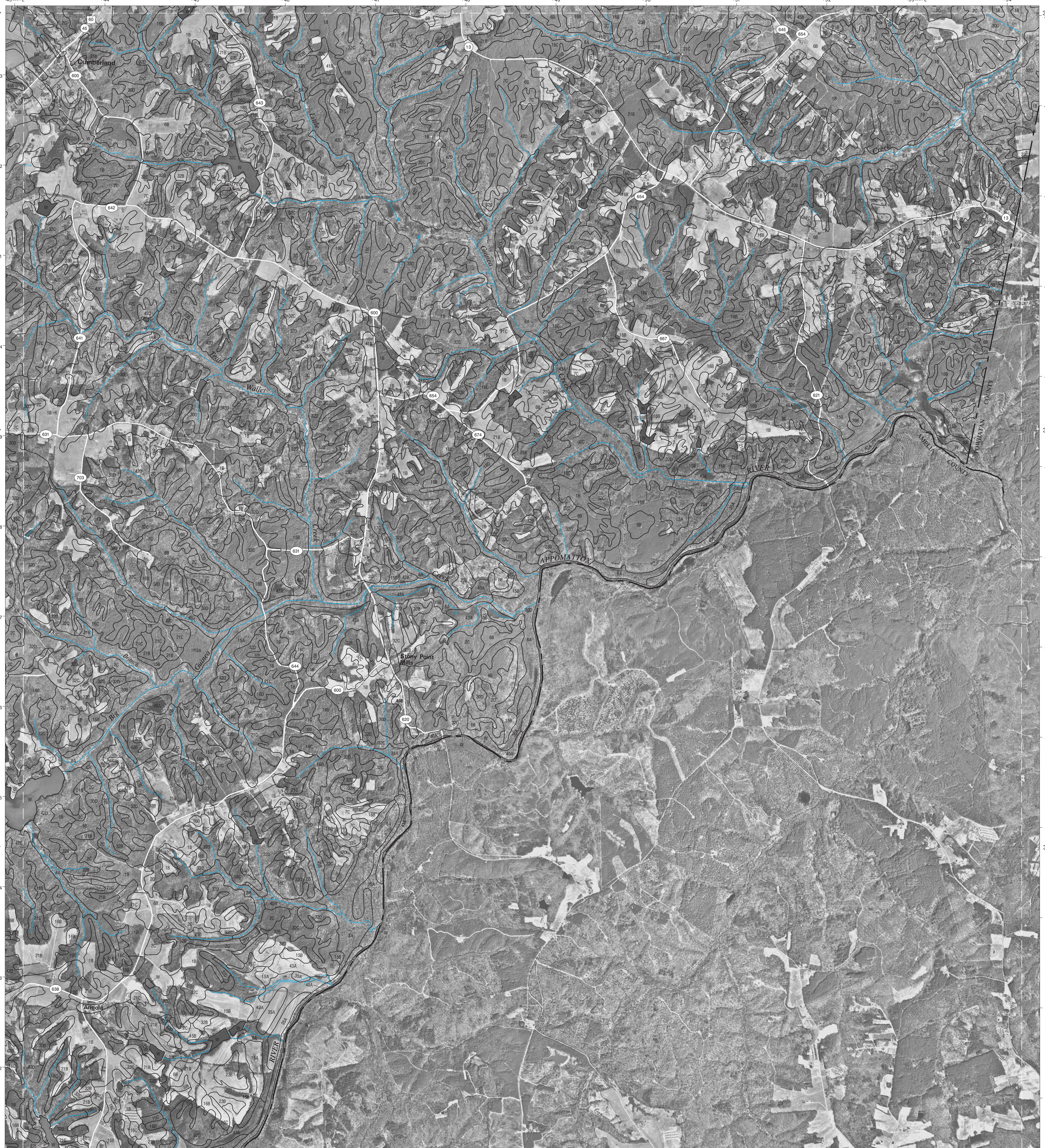
INDEX TO ADJOINING 7.5 MAPS

HILLCREST, VIRGINIA

7.5 MINUTE SERIES
SHEET NUMBER 8 OF 13

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE



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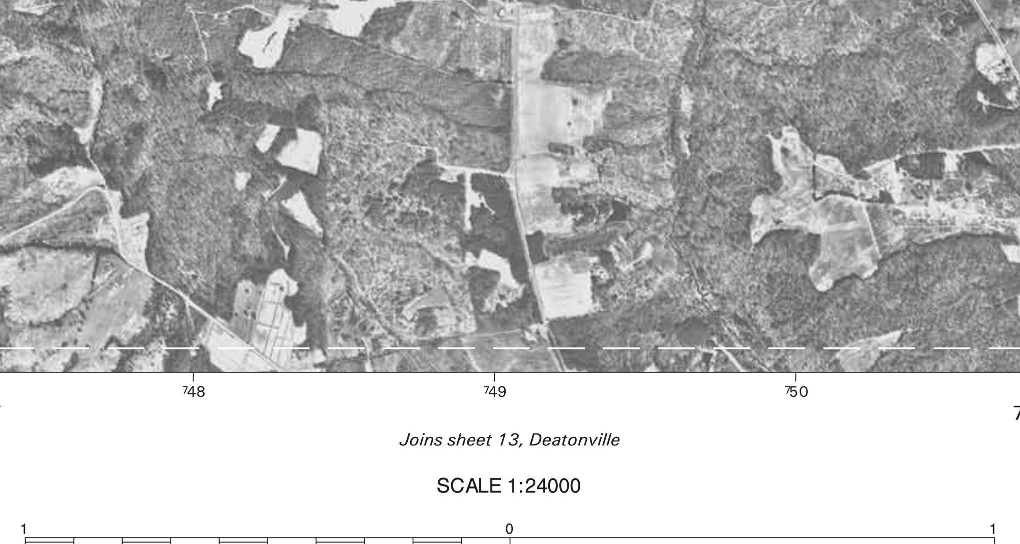
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

QUADRANGLE LOCATION

SCALE 1:24000



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CUMBERLAND, VIRGINIA

7.5 MINUTE SERIES
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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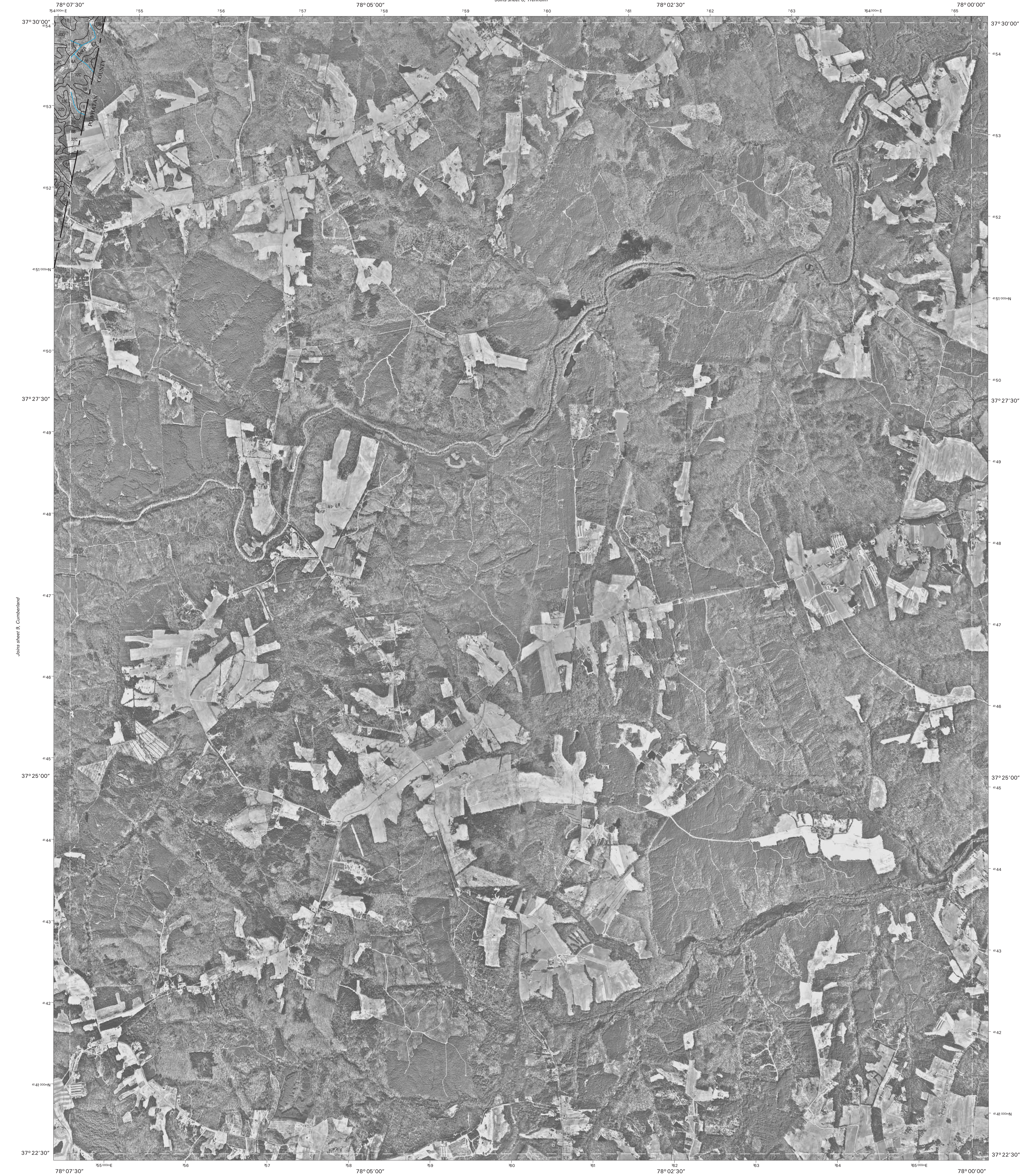
CUMBERLAND COUNTY, VIRGINIA
BALLSVILLE QUADRANGLE
SHEET NUMBER 10 OF 13



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

5	6	
9		
13		

5 WHITEVILLE
6 TRENHOLM
9 CUMBERLAND
13 DEATONVILLE

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BALLSVILLE, VIRGINIA
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UNITED STATES
DEPARTMENT OF AGRICULTURE
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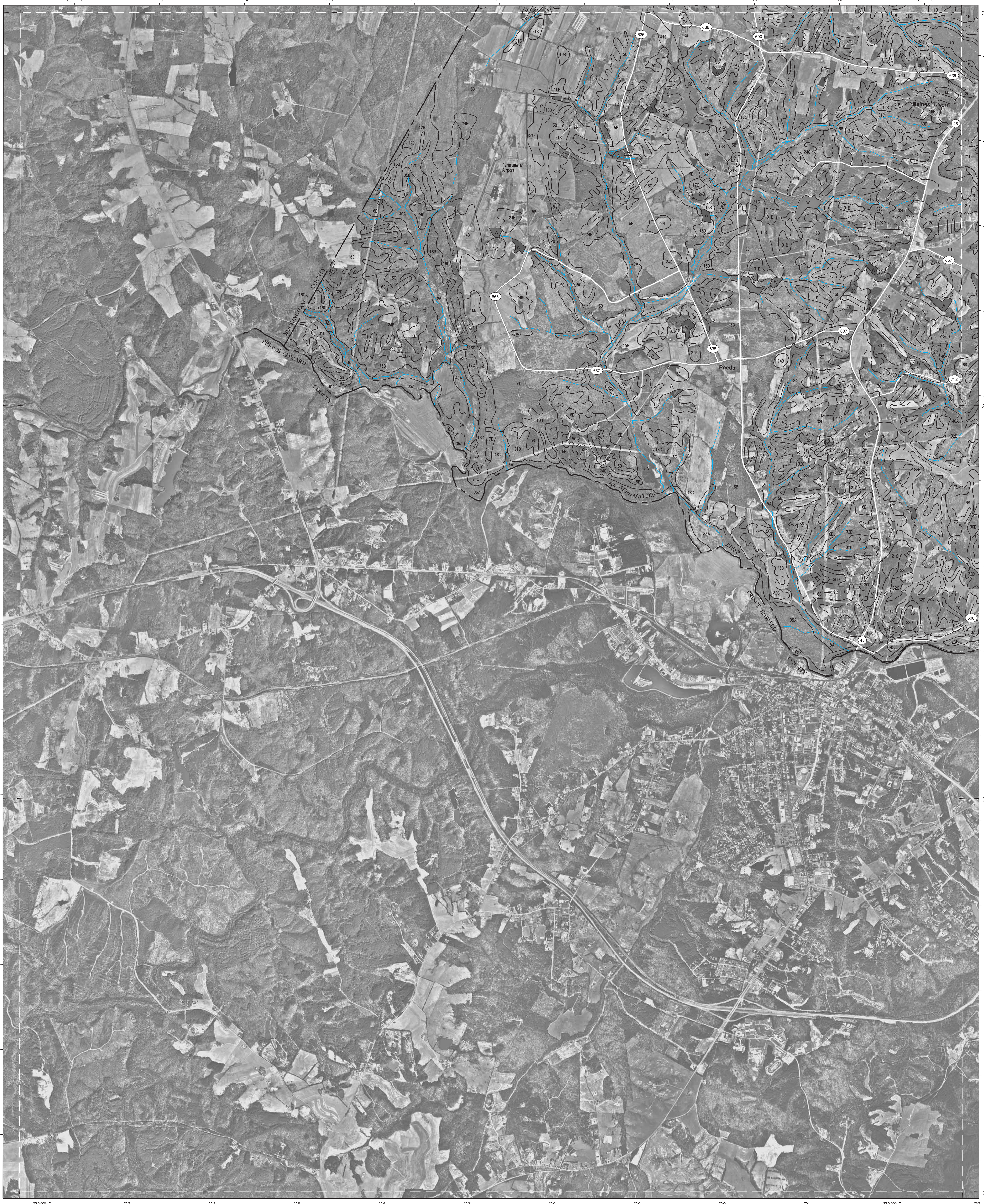
CUMBERLAND COUNTY, VIRGINIA
FARMVILLE QUADRANGLE
SHEET NUMBER 11 OF 13

Joins sheet 7, Willis Mountain

Joins sheet 8, Hillcrest



Joins sheet 12, Rice

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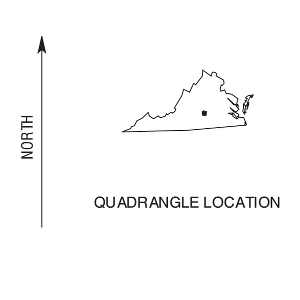
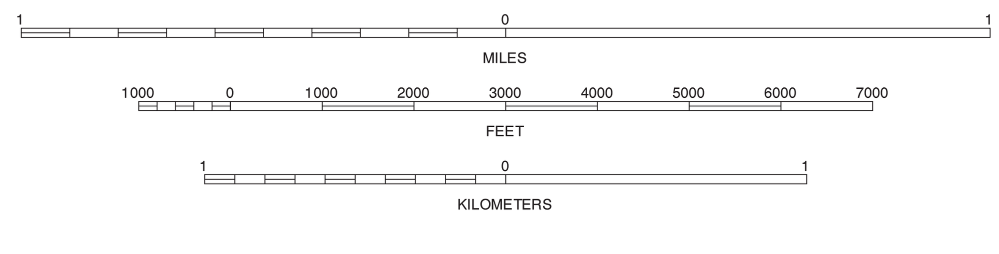
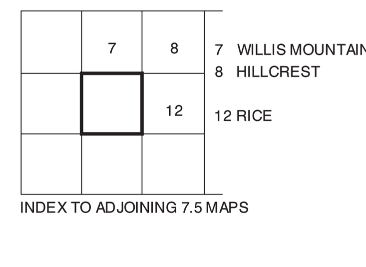
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 17. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

SCALE 1:24000





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FARMVILLE, VIRGINIA

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UNITED STATES
DEPARTMENT OF AGRICULTURE
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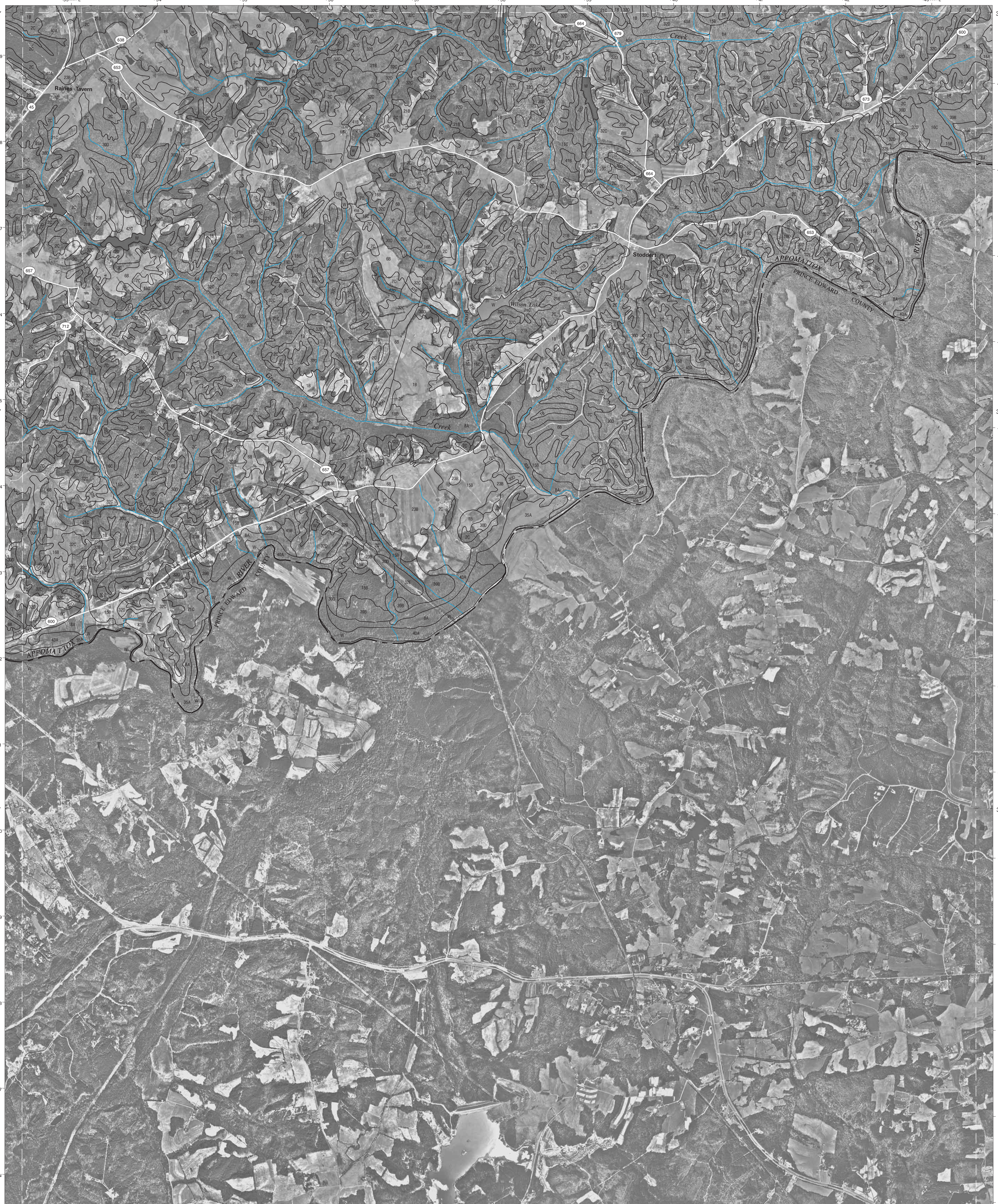
CUMBERLAND COUNTY, VIRGINIA
RICE QUADRANGLE
SHEET NUMBER 12 OF 13



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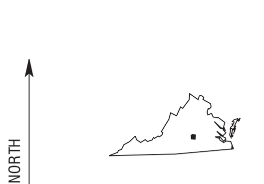

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

7	8	9
11		13

7 WILLIS MOUNTAIN
8 HILLCREST
9 CUMBERLAND
11 FARMVILLE
13 DEATONVILLE

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RICE, VIRGINIA

7.5 MINUTE SERIES
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UNITED STATES
DEPARTMENT OF AGRICULTURE
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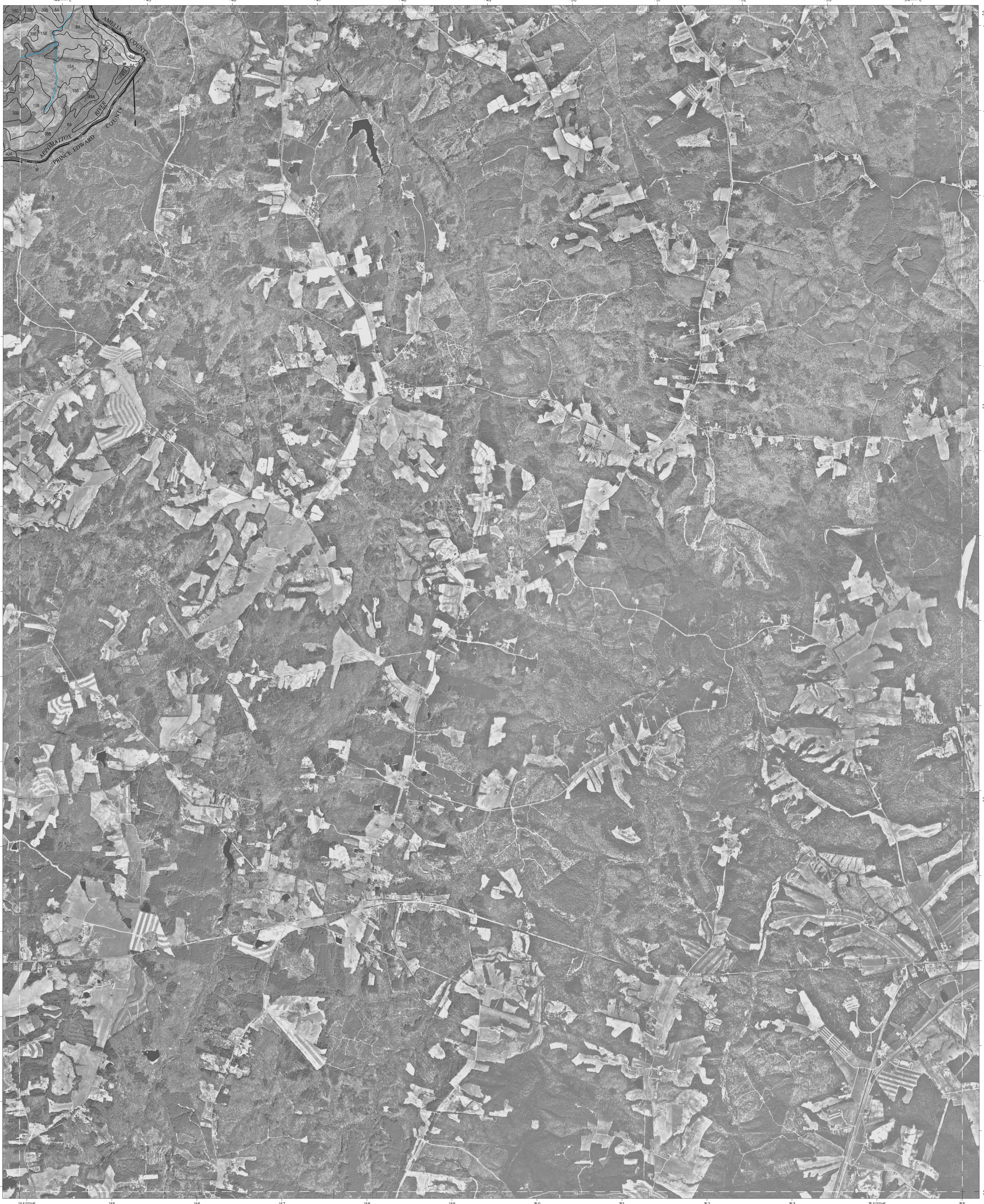
CUMBERLAND COUNTY, VIRGINIA
DEATONVILLE QUADRANGLE
SHEET NUMBER 13 OF 13

Joins sheet 8, Hillcrest

Joins sheet 9, Cumberland

Joins sheet 10, Ballsville

Joins sheet 12, Rice



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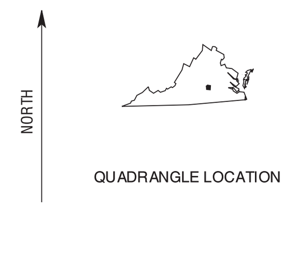

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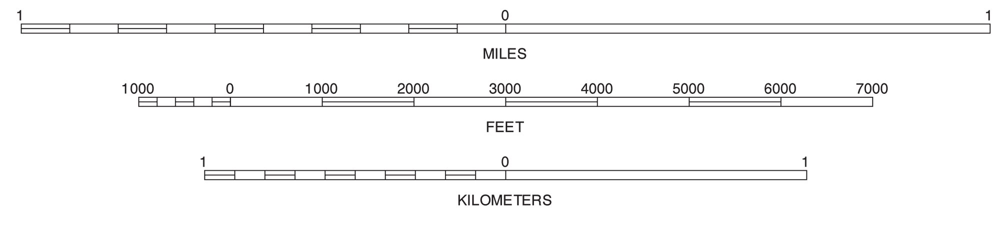

8	9	10
12		

8 HILLCREST
9 CUMBERLAND
10 BALLSVILLE
12 RICE

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DEATONVILLE, VIRGINIA

7.5 MINUTE SERIES
SHEET NUMBER 13 OF 13

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